



SEQUENCE LISTING

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<120> HUMAN MONOCLONAL ANTIBODIES TO CTLA-4

<130> ABX-PF1 DIV2

<140> US 10/776649

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<150> US 10/612497

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<151> 1998-12-23

<160> 147

<170> PatentIn Ver. 2.1

<210> 1

<211> 463

<212> PRT

<213> Homo sapiens

<400> 1

Met Glu Phe Gly Leu Ser Trp Val Phe Leu Val Ala Leu Leu Arg Gly  
1 5 10 15

Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln  
20 25 30

Pro Gly Arg Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe  
35 40 45

Ser Ser His Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
50 55 60

Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Arg Asn Lys Tyr Tyr Ala  
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn  
85 90 95

Thr Leu Phe Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
100 105 110

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Tyr Tyr Cys Ala Arg Gly Gly His Phe Gly Pro Phe Asp Tyr Trp Gly  
 115 120 125  
 Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser  
 130 135 140  
 Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala  
 145 150 155 160  
 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val  
 165 170 175  
 Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala  
 180 185 190  
 Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val  
 195 200 205  
 Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His  
 210 215 220  
 Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys  
 225 230 235 240  
 Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val  
 245 250 255  
 Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
 260 265 270  
 Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu  
 275 280 285  
 Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
 290 295 300  
 Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser  
 305 310 315 320  
 Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
 325 330 335  
 Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile  
 340 345 350  
 Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
 355 360 365  
 Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
 370 375 380  
 Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
 385 390 395 400  
 Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser  
 405 410 415  
 Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg

420                      425                      430  
 Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
           435                      440                      445  
 His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
           450                      455                      460  
  
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 <211> 464  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 2  
 Met Glu Phe Gly Leu Ser Trp Val Phe Leu Val Ala Leu Leu Arg Gly  
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 Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln  
           20                      25                      30  
 Pro Gly Arg Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe  
           35                      40                      45  
 Ser Asn Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
           50                      55                      60  
 Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys His Tyr Gly  
   65                      70                      75                      80  
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ser Asp Asn Ser Lys Asn  
           85                      90                      95  
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
           100                      105                      110  
 Tyr Tyr Cys Ala Arg Gly Glu Arg Leu Gly Ser Tyr Phe Asp Tyr Trp  
           115                      120                      125  
 Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro  
           130                      135                      140  
 Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr  
   145                      150                      155                      160  
 Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr  
           165                      170                      175  
 Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro  
           180                      185                      190  
 Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr  
           195                      200                      205  
 Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp  
           210                      215                      220  
 His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys

225		230		235		240
Cys Val Glu Cys Pro	Pro Cys Pro Ala Pro	Pro Val Ala Gly Pro	Ser			
	245		250			255
Val Phe Leu Phe Pro	Pro Lys Pro Lys Asp Thr	Leu Met Ile Ser Arg				
	260		265			270
Thr Pro Glu Val Thr	Cys Val Val Val Asp Val	Ser His Glu Asp Pro				
	275		280			285
Glu Val Gln Phe Asn Trp	Tyr Val Asp Gly Val Glu	Val His Asn Ala				
	290		295			300
Lys Thr Lys Pro Arg	Glu Glu Gln Phe Asn Ser	Thr Phe Arg Val Val				
	305		310			315
Ser Val Leu Thr Val	Val His Gln Asp Trp Leu	Asn Gly Lys Glu Tyr				
	325		330			335
Lys Cys Lys Val Ser	Asn Lys Gly Leu Pro Ala	Pro Ile Glu Lys Thr				
	340		345			350
Ile Ser Lys Thr Lys	Gly Gln Pro Arg Glu Pro	Gln Val Tyr Thr Leu				
	355		360			365
Pro Pro Ser Arg Glu	Glu Met Thr Lys Asn Gln	Val Ser Leu Thr Cys				
	370		375			380
Leu Val Lys Gly Phe Tyr	Pro Ser Asp Ile Ala Val	Glu Trp Glu Ser				
	385		390			395
Asn Gly Gln Pro Glu	Asn Asn Tyr Lys Thr Thr	Pro Pro Met Leu Asp				
	405		410			415
Ser Asp Gly Ser Phe	Phe Leu Tyr Ser Lys	Leu Thr Val Asp Lys Ser				
	420		425			430
Arg Trp Gln Gln Gly	Asn Val Phe Ser Cys Ser	Val Met His Glu Ala				
	435		440			445
Leu His Asn His Tyr Thr	Gln Lys Ser Leu Ser Leu	Ser Pro Gly Lys				
	450		455			460

<210> 3  
 <211> 163  
 <212> PRT  
 <213> Homo sapiens

<400> 3  
 Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe  
 1 5 10 15  
 Ser Ser His Gly Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
 20 25 30  
 Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Arg Asn Lys Asp Tyr Ala

35	40	45
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Lys		
50	55	60
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val		
65	70	75 80
Tyr Tyr Cys Ala Arg Val Ala Pro Leu Gly Pro Leu Asp Tyr Trp Gly		
	85 90	95
Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser		
	100 105	110
Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala		
	115 120	125
Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val		
	130 135	140
Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala		
145	150 155	160
Val Leu Gln		

<210> 4  
 <211> 463  
 <212> PRT  
 <213> Homo sapiens

<400> 4
Met Glu Phe Gly Leu Ser Trp Val Phe Leu Val Ala Leu Leu Arg Gly
1 5 10 15
Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Glu
20 25 30
Pro Gly Arg Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe
35 40 45
Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60
Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys His Tyr Ala
65 70 75 80
Asp Ser Ala Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85 90 95
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100 105 110
Tyr Tyr Cys Ala Arg Ala Gly Leu Leu Gly Tyr Phe Asp Tyr Trp Gly
115 120 125
Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
130 135 140

Val	Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	Thr	Ala	145	150	155	160
Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	165	170	175	
Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	180	185	190	
Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	195	200	205	
Pro	Ser	Ser	Asn	Phe	Gly	Thr	Gln	Thr	Tyr	Thr	Cys	Asn	Val	Asp	His	210	215	220	
Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Thr	Val	Glu	Arg	Lys	Cys	Cys	225	230	235	240
Val	Glu	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Pro	Val	Ala	Gly	Pro	Ser	Val	245	250	255	
Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	260	265	270	
Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	275	280	285	
Val	Gln	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	290	295	300	
Thr	Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Phe	Arg	Val	Val	Ser	305	310	315	320
Val	Leu	Thr	Val	Val	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	325	330	335	
Cys	Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	340	345	350	
Ser	Lys	Thr	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	355	360	365	
Pro	Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	370	375	380	
Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	385	390	395	400
Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Met	Leu	Asp	Ser	405	410	415	
Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	420	425	430	
Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	435	440	445	

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
 450 455 460

<210> 5  
 <211> 169  
 <212> PRT  
 <213> Homo sapiens

<400> 5  
 Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser  
 1 5 10 15  
 Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro  
 20 25 30  
 Gly Lys Gly Leu Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser Asn  
 35 40 45  
 Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp  
 50 55 60  
 Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu  
 65 70 75 80  
 Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Ala Arg Ile Ile Thr Pro  
 85 90 95  
 Cys Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala  
 100 105 110  
 Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser  
 115 120 125  
 Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe  
 130 135 140  
 Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly  
 145 150 155 160  
 Val His Thr Phe Pro Ala Val Leu Gln  
 165

<210> 6  
 <211> 167  
 <212> PRT  
 <213> Homo sapiens

<400> 6  
 Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Val Ala Ser  
 1 5 10 15  
 Gly Phe Ile Phe Ser Ser His Gly Ile His Trp Val Arg Gln Ala Pro  
 20 25 30  
 Gly Lys Gly Leu Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Arg Asn  
 35 40 45

Lys Asp Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp  
 50 55 60  
 Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu  
 65 70 75 80  
 Asp Thr Ala Val Tyr Tyr Cys Ala Arg Val Ala Pro Leu Gly Pro Leu  
 85 90 95  
 Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr  
 100 105 110  
 Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser  
 115 120 125  
 Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu  
 130 135 140  
 Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His  
 145 150 155 160  
 Thr Phe Pro Ala Val Leu Gln  
 165

<210> 7  
 <211> 172  
 <212> PRT  
 <213> Homo sapiens

<400> 7  
 Ser Gly Pro Gly Leu Val Lys Pro Ser Gln Ile Leu Ser Leu Thr Cys  
 1 5 10 15  
 Thr Val Ser Gly Gly Ser Ile Ser Ser Gly Gly His Tyr Trp Ser Trp  
 20 25 30  
 Ile Arg Gln His Pro Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile Tyr  
 35 40 45  
 Tyr Ile Gly Asn Thr Tyr Tyr Asn Pro Ser Leu Lys Ser Arg Val Thr  
 50 55 60  
 Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser  
 65 70 75 80  
 Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Gly  
 85 90 95  
 Asp Tyr Tyr Gly Ile Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val  
 100 105 110  
 Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys  
 115 120 125  
 Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys  
 130 135 140



Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu  
 145 150 155 160

Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln  
 165 170

<210> 8  
 <211> 153  
 <212> PRT  
 <213> Homo sapiens

<400> 8  
 Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe  
 1 5 10 15

Ser Ser His Gly Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
 20 25 30

Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Arg Asn Lys Asp Tyr Ala  
 35 40 45

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn  
 50 55 60

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
 65 70 75 80

Tyr Tyr Cys Ala Arg Val Ala Pro Leu Gly Pro Leu Asp Tyr Trp Gly  
 85 90 95

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser  
 100 105 110

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala  
 115 120 125

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val  
 130 135 140

Ser Trp Asn Ser Gly Ala Leu Thr Ser  
 145 150

<210> 9  
 <211> 167  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MOD\_RES  
 <222> (103)  
 <223> Any amino acid

<400> 9  
 Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser  
 1 5 10 15

Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro  
                     20                    25                    30  
 Gly Lys Gly Leu Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser Asn  
                     35                    40                    45  
 Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp  
                     50                    55                    60  
 Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu  
                     65                    70                    75                    80  
 Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Pro Arg Gly Ala Thr Leu  
                     85                    90                    95  
 Tyr Tyr Tyr Tyr Tyr Arg Xaa Asp Val Trp Gly Gln Gly Thr Thr Val  
                     100                    105                    110  
 Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala  
                     115                    120                    125  
 Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu  
                     130                    135                    140  
 Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly  
                     145                    150                    155                    160  
 Ala Leu Thr Ser Gly Val His  
                     165

<210> 10  
 <211> 151  
 <212> PRT  
 <213> Homo sapiens

<400> 10  
 Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser  
                     1                    5                    10                    15  
 Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro  
                     20                    25                    30  
 Gly Lys Gly Leu Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser His  
                     35                    40                    45  
 Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp  
                     50                    55                    60  
 Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu  
                     65                    70                    75                    80  
 Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Ala Val Val Val Pro Ala  
                     85                    90                    95  
 Ala Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala  
                     100                    105                    110

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser  
 115 120 125

Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe  
 130 135 140

Pro Glu Pro Val Thr Val Ser  
 145 150

<210> 11  
 <211> 146  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MOD\_RES  
 <222> (22)  
 <223> Any amino acid

<400> 11  
 Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly  
 1 5 10 15

Phe Thr Phe Ser Ser Xaa Gly Met His Trp Val Arg Gln Ala Pro Gly  
 20 25 30

Lys Gly Leu Glu Trp Val Ala Val Ile Trp Ser Asp Gly Ser His Lys  
 35 40 45

Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn  
 50 55 60

Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp  
 65 70 75 80

Thr Ala Val Tyr Tyr Cys Ala Arg Gly Thr Met Ile Val Val Gly Thr  
 85 90 95

Leu Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser  
 100 105 110

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr  
 115 120 125

Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro  
 130 135 140

Glu Pro  
 145

<210> 12  
 <211> 174  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 12

Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys  
 1 5 10 15  
 Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Val His Trp Val Arg  
 20 25 30  
 Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Val Ile Trp Tyr Asp  
 35 40 45  
 Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile  
 50 55 60  
 Ser Arg Asp Asn Ser Lys Ser Thr Leu Tyr Leu Gln Met Asn Ser Leu  
 65 70 75 80  
 Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Tyr Tyr  
 85 90 95  
 Asp Phe Trp Ser Gly Arg Gly Gly Met Asp Val Trp Gly Gln Gly Thr  
 100 105 110  
 Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro  
 115 120 125  
 Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly  
 130 135 140  
 Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn  
 145 150 155 160  
 Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170

&lt;210&gt; 13

&lt;211&gt; 163

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 13

Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe  
 1 5 10 15  
 Thr Phe Ser Asn Tyr Ala Met His Trp Val Arg Gln Ala Pro Gly Lys  
 20 25 30  
 Gly Leu Glu Trp Val Val Val Ile Trp His Asp Gly Asn Asn Lys Tyr  
 35 40 45  
 Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser  
 50 55 60  
 Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr  
 65 70 75 80  
 Ala Val Tyr Tyr Cys Ala Arg Asp Gln Gly Thr Gly Trp Tyr Gly Gly  
 85 90 95

Phe Asp Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser  
 100 105 110  
 Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr  
 115 120 125  
 Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro  
 130 135 140  
 Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val  
 145 150 155 160  
 His Thr Phe

<210> 14  
 <211> 235  
 <212> PRT  
 <213> Homo sapiens

<400> 14  
 Met Glu Thr Pro Ala Gln Leu Leu Phe Leu Leu Leu Trp Leu Pro  
 1 5 10 15  
 Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser  
 20 25 30  
 Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser  
 35 40 45  
 Ile Ser Ser Ser Phe Leu Ala Trp Tyr Gln Gln Arg Pro Gly Gln Ala  
 50 55 60  
 Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro  
 65 70 75 80  
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile  
 85 90 95  
 Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr  
 100 105 110  
 Gly Thr Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
 115 120 125  
 Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu  
 130 135 140  
 Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe  
 145 150 155 160  
 Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln  
 165 170 175  
 Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser  
 180 185 190

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu  
 195 200 205

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser  
 210 215 220

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys  
 225 230 235

<210> 15

<211> 233

<212> PRT

<213> Homo sapiens

<400> 15

Met Glu Thr Pro Ala Gln Leu Leu Phe Leu Leu Leu Leu Trp Leu Pro  
 1 5 10 15

Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser  
 20 25 30

Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Thr Ser Val Ser  
 35 40 45

Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg  
 50 55 60

Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg  
 65 70 75 80

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg  
 85 90 95

Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile  
 100 105 110

Ser Pro Phe Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr  
 115 120 125

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu  
 130 135 140

Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro  
 145 150 155 160

Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly  
 165 170 175

Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr  
 180 185 190

Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His  
 195 200 205

Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val  
 210 215 220

Thr Lys Ser Phe Asn Arg Gly Glu Cys  
225 230

<210> 16  
<211> 139  
<212> PRT  
<213> Homo sapiens

<400> 16  
Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg  
1 5 10 15  
Ala Ser Gln Ser Val Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro  
20 25 30  
Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr  
35 40 45  
Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr  
50 55 60  
Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys  
65 70 75 80  
Gln Gln Tyr Gly Arg Ser Pro Phe Thr Phe Gly Pro Gly Thr Lys Val  
85 90 95  
Asp Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro  
100 105 110  
Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu  
115 120 125  
Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln  
130 135

<210> 17  
<211> 234  
<212> PRT  
<213> Homo sapiens

<400> 17  
Met Glu Thr Pro Ala Gln Leu Leu Phe Leu Leu Leu Leu Trp Leu Pro  
1 5 10 15  
Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser  
20 25 30  
Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser  
35 40 45  
Val Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro  
50 55 60  
Arg Pro Leu Ile Tyr Gly Val Ser Ser Arg Ala Thr Gly Ile Pro Asp  
65 70 75 80

Arg	Phe	Ser	Gly	Ser 85	Gly	Ser	Gly	Thr	Asp 90	Phe	Thr	Leu	Thr	Ile 95	Ser
Arg	Leu	Glu	Pro 100	Glu	Asp	Phe	Ala	Val 105	Tyr	Tyr	Cys	Gln	Gln 110	Tyr	Gly
Ile	Ser	Pro 115	Phe	Thr	Phe	Gly	Pro 120	Gly	Thr	Lys	Val	Asp 125	Ile	Lys	Arg
Thr	Val 130	Ala	Ala	Pro	Ser	Val 135	Phe	Ile	Phe	Pro	Pro 140	Ser	Asp	Glu	Gln
Leu 145	Lys	Ser	Gly	Thr	Ala 150	Ser	Val	Val	Cys	Leu 155	Leu	Asn	Asn	Phe	Tyr 160
Pro	Arg	Glu	Ala	Lys 165	Val	Gln	Trp	Lys	Val 170	Asp	Asn	Ala	Leu	Gln 175	Ser
Gly	Asn	Ser	Gln 180	Glu	Ser	Val	Thr	Glu 185	Gln	Asp	Ser	Lys	Asp 190	Ser	Thr
Tyr	Ser	Leu 195	Ser	Ser	Thr	Leu	Thr 200	Leu	Ser	Lys	Ala	Asp 205	Tyr	Glu	Lys
His	Lys 210	Val	Tyr	Ala	Cys	Glu 215	Val	Thr	His	Gln	Gly 220	Leu	Ser	Ser	Pro
Val 225	Thr	Lys	Ser	Phe	Asn 230	Arg	Gly	Glu	Cys						

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<210> 18
<211> 152
<212> PRT
<213> Homo sapiens
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<400> 18
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
  1          5          10          15
Thr Cys Arg Ala Ser Gln Ser Ile Asn Thr Tyr Leu Ile Trp Tyr Gln
          20          25          30
Gln Lys Pro Gly Lys Ala Pro Asn Phe Leu Ile Ser Ala Thr Ser Ile
          35          40          45
Leu Gln Ser Gly Val Pro Ser Arg Phe Arg Gly Ser Gly Ser Gly Thr
  50          55          60
Asn Phe Thr Leu Thr Ile Asn Ser Leu His Pro Glu Asp Phe Ala Thr
  65          70          75          80
Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Phe Thr Phe Gly Pro Gly
          85          90          95
Thr Lys Val Asp Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
          100          105          110

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Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val  
 115 120 125

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys  
 130 135 140

Val Asp Asn Ala Leu Gln Ser Gly  
 145 150

<210> 19

<211> 142

<212> PRT

<213> Homo sapiens

<400> 19

Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser  
 1 5 10 15

Cys Arg Ala Ser Gln Ser Ile Ser Ser Asn Phe Leu Ala Trp Tyr Gln  
 20 25 30

Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Arg Pro Ser Ser  
 35 40 45

Arg Ala Thr Gly Ile Pro Asp Ser Phe Ser Gly Ser Gly Ser Gly Thr  
 50 55 60

Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Leu  
 65 70 75 80

Tyr Tyr Cys Gln Gln Tyr Gly Thr Ser Pro Phe Thr Phe Gly Pro Gly  
 85 90 95

Thr Lys Val Asp Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile  
 100 105 110

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val  
 115 120 125

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln  
 130 135 140

<210> 20

<211> 155

<212> PRT

<213> Homo sapiens

<400> 20

Ser Pro Asp Phe Gln Ser Val Thr Pro Lys Glu Lys Val Thr Ile Thr  
 1 5 10 15

Cys Arg Ala Ser Gln Ser Ile Gly Ser Ser Leu His Trp Tyr Gln Gln  
 20 25 30

Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile Lys Tyr Ala Ser Gln Ser

35	40	45
Phe Ser Gly Val Pro Ser Arg	Phe Ser Gly Ser Gly Ser	Gly Thr Asp
50	55	60
Phe Thr Leu Thr Ile Asn Ser	Leu Glu Ala Glu Asp Ala Ala	Thr Tyr
65	70	75
Tyr Cys His Gln Ser Ser Ser	Leu Pro Leu Thr Phe Gly Gly	Gly Thr
85	90	95
Lys Val Glu Ile Lys Arg Thr	Val Ala Ala Pro Ser Val Phe	Ile Phe
100	105	110
Pro Pro Ser Asp Glu Gln Leu	Lys Ser Gly Thr Ala Ser Val	Val Cys
115	120	125
Leu Leu Asn Asn Phe Tyr Pro	Arg Glu Ala Lys Val Gln Trp	Lys Val
130	135	140
Asp Asn Ala Leu Gln Ser Gly	Asn Ser Gln Glu	
145	150	155

<210> 21  
 <211> 146  
 <212> PRT  
 <213> Homo sapiens

<400> 21

Gln Ser Pro Gly Thr Leu Ser	Leu Ser Pro Gly Glu Arg Ala	Thr Leu
1	5	10
Ser Cys Arg Ala Ser Gln Ser	Val Ser Ser Tyr Leu Ala Trp	Tyr Gln
20	25	30
Gln Lys Pro Gly Gln Ala Pro	Arg Leu Leu Ile Tyr Gly Ala	Ser Ser
35	40	45
Arg Ala Thr Gly Ile Pro Asp	Arg Phe Ser Gly Ser Gly Ser	Gly Thr
50	55	60
Asp Phe Thr Leu Thr Ile Ser	Arg Leu Glu Pro Glu Asp Phe	Ala Val
65	70	75
Tyr Tyr Cys Gln Gln Tyr Gly	Arg Ser Pro Phe Thr Phe Gly	Pro Gly
85	90	95
Thr Lys Val Asp Ile Lys Arg	Thr Val Ala Ala Pro Ser Val	Phe Ile
100	105	110
Phe Pro Pro Ser Asp Glu Gln	Leu Lys Ser Gly Thr Ala Ser	Val Val
115	120	125
Cys Leu Leu Asn Asn Phe Tyr	Pro Arg Glu Ala Lys Val Gln	Trp Lys
130	135	140
Gly Gly		

145

<210> 22  
 <211> 139  
 <212> PRT  
 <213> Homo sapiens

<400> 22  
 Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys  
   1                  5                  10                  15  
 Arg Ala Ser Gln Ser Ile Asn Ser Tyr Leu Asp Trp Tyr Gln Gln Lys  
                   20                  25                  30  
 Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ala Ala Ser Ser Leu Gln  
           35                  40                  45  
 Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe  
   50                  55                  60  
 Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr  
   65                  70                  75                  80  
 Cys Gln Gln Tyr Tyr Ser Thr Pro Phe Thr Phe Gly Pro Gly Thr Lys  
                   85                  90                  95  
 Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro  
           100                  105                  110  
 Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu  
   115                  120                  125  
 Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val  
   130                  135

<210> 23  
 <211> 134  
 <212> PRT  
 <213> Homo sapiens

<400> 23  
 Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr  
   1                  5                  10                  15  
 Ile Thr Cys Arg Ala Ser Gln Asn Ile Ser Arg Tyr Leu Asn Trp Tyr  
           20                  25                  30  
 Gln Gln Lys Pro Gly Lys Ala Pro Lys Phe Leu Ile Tyr Val Ala Ser  
           35                  40                  45  
 Ile Leu Gln Ser Gly Val Pro Ser Gly Phe Ser Ala Ser Gly Ser Gly  
   50                  55                  60  
 Pro Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
   65                  70                  75                  80

Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Phe Thr Phe Gly Pro  
85 90 95

Gly Thr Lys Val Asp Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe  
100 105 110

Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val  
115 120 125

Val Cys Leu Leu Asn Asn  
130

<210> 24

<211> 150

<212> PRT

<213> Homo sapiens

<400> 24

Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr  
1 5 10 15

Ile Thr Cys Arg Ala Ser Gln Ser Ile Cys Asn Tyr Leu Asn Trp Tyr  
20 25 30

Gln Gln Lys Pro Gly Lys Ala Pro Arg Val Leu Ile Tyr Ala Ala Ser  
35 40 45

Ser Leu Gln Gly Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly  
50 55 60

Ile Asp Cys Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
65 70 75 80

Thr Tyr Tyr Cys Gln Gln Ser Tyr Ile Thr Pro Phe Thr Phe Gly Pro  
85 90 95

Gly Thr Arg Val Asp Ile Glu Arg Thr Val Ala Ala Pro Ser Val Phe  
100 105 110

Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val  
115 120 125

Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp  
130 135 140

Lys Val Asp Asn Ala Tyr  
145 150

<210> 25

<211> 139

<212> PRT

<213> Homo sapiens

<400> 25

Pro Leu Ser Leu Pro Val Thr Leu Gly Gln Pro Ala Ser Ile Ser Cys  
1 5 10 15

Arg Ser Ser Gln Ser Leu Val Tyr Ser Asp Gly Asn Thr Tyr Leu Asn  
                   20                  25                  30  
 Trp Phe Gln Gln Arg Pro Gly Gln Ser Pro Arg Arg Leu Ile Tyr Lys  
           35                  40                  45  
 Val Ser Asn Trp Asp Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly  
           50                  55                  60  
 Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp  
   65                  70                  75                  80  
 Val Gly Val Tyr Tyr Cys Met Gln Gly Ser His Trp Pro Pro Thr Phe  
                   85                  90                  95  
 Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser  
           100                  105                  110  
 Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala  
           115                  120                  125  
 Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro  
       130                  135

<210> 26  
 <211> 133  
 <212> PRT  
 <213> Homo sapiens

<400> 26  
 Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu  
   1                  5                  10                  15  
 His Ser Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly  
           20                  25                  30  
 Gln Ser Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly  
           35                  40                  45  
 Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu  
           50                  55                  60  
 Lys Leu Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met  
   65                  70                  75                  80  
 Gln Ala Leu Gln Thr Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu  
           85                  90                  95  
 Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser  
           100                  105                  110  
 Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn  
           115                  120                  125  
 Asn Phe Tyr Pro Arg  
       130

<210> 27  
 <211> 1392  
 <212> DNA  
 <213> Homo sapiens

<400> 27  
 atggagtttg ggctgagctg ggttttcctc gttgctcttt taagaggtgt ccagtgtcag 60  
 gtgcagctgg tggagtctgg gggaggcgtg gtccagcctg ggaggtccct gagactctcc 120  
 tgtgtagcgt ctggattcac cttcagtagc catggcatgc actgggtccg ccaggctcca 180  
 ggcaaggggc tggagtgggt ggcagttata tggatgatg gaagaaataa atactatgca 240  
 gactccgtga agggccgatt caccatctcc agagacaatt ccaagaacac gctgtttctg 300  
 caaatgaaca gcctgagagc cgaggacacg gctgtgtatt actgtgagag aggaggtcac 360  
 ttcggctcctt ttgactactg gggccaggga accctggcca ccgtctcctc agcctccacc 420  
 aaggggccat cggtcttccc cctggcgccc tgctccagga gcacctccga gagcacagcg 480  
 gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacgggtgtc gtggaactca 540  
 ggcgctctga ccagcggcgt gcacaccttc ccagctgtcc tacagtctc aggactctac 600  
 tccctcagca gcgtgggtgac cgtgccctcc agcaacttcg gcacccagac ctacacctgc 660  
 aacgtagatc acaagcccag caacaccaag gtggacaaga cagttgagcg caaatgttgt 720  
 gtcgagtgcc caccgtgccc agcaccacct gtggcaggac cgtcagttct cctcttcccc 780  
 ccaaaaccca aggacaccct catgatctcc cggacccctg aggtcacgtg cgtgggtggg 840  
 gacgtgagcc acgaagacc cgagggtccag ttcaactgg acgtggacgg cgtggaggtg 900  
 cataatgcc agacaaagcc acgggaggag cagttcaaca gcacgttccg tgtggtcagc 960  
 gtccctcaccg ttgtgcacca ggactggctg aacggcaagg agtacaagt caaggtctcc 1020  
 aacaaaggcc tcccagcccc catcgagaaa accatctcca aaaccaaagg gcagccccga 1080  
 gaaccacagg tgtacacctt gccccatcc cgggaggaga tgaccaagaa ccagggtcagc 1140  
 ctgacctgcc tggtaaaagg cttctacccc agcgacatcg ccgtggagtg ggagagcaat 1200  
 gggcagccgg agaacaacta caagaccaca cctcccatgc tggactccga cggctccttc 1260  
 ttcctctaca gcaagctcac cgtggacaag agcaggtggc agcaggggaa cgtcttctca 1320  
 tgctccgtga tgcattgagg tctgcacaac cactacacgc agaagagcct ctccctgtct 1380  
 ccgggtaaat ga 1392

<210> 28  
 <211> 1395  
 <212> DNA  
 <213> Homo sapiens

<400> 28  
 atggagtttg ggctgagctg ggttttcctc gttgctcttt taagaggtgt ccagtgtcag 60  
 gtgcagctgg tggagtctgg gggaggcgtg gtccagcctg ggaggtccct gagactctcc 120  
 tgtacagcgt ctggattcac cttcagtaac tatggcatgc actgggtccg ccaggctcca 180  
 ggcaaggggc tggagtgggt ggcagttata tggatgatg gaagtaataa acactatgga 240  
 gactccgtga agggccgatt caccatctcc agtgacaatt ccaagaacac gctgtatctg 300  
 caaatgaaca gcctgagagc cgaggacacg gctgtgtatt actgtgagag aggagagaga 360  
 ctggggtcct actttgacta ctggggccag ggaaccctgg tcaccgtctc ctcagcctcc 420  
 accaagggcc catcggtctt cccctggcg ccctgctcca ggagcacctc cgagagcaca 480  
 gcggccctgg gctgcctggt caaggactac ttccccgaac cggtagcggg gtcgtggaac 540  
 tcaggcgctc tgaccagcgg cgtgcacacc ttcccagctg tcctacagtc ctcaggactc 600  
 tactccctca gcagcgtggt gaccgtgccc tccagcaact tcggcaccga gacctacacc 660  
 tgcaacgtag atcacaaagg cagcaacacc aagggtggaca agacagttga gcgcaaatgt 720  
 tgtgtcaggt gccaccctg cccagcacca cctgtggcag gaccgtcagt cttcctcttc 780  
 ccccaaaac ccaaggacac cctcatgatc tcccggaccc ctgaggtcac gtgcgtgggtg 840  
 gtggacgtga gccacgaaga ccccgaggtc cagttcaact ggtacgtgga cggcgtggag 900  
 gtgcataatg ccaagacaaa gccacgggag gagcagttca acagcacgtt ccgtgtgggtc 960  
 agcgtcctca ccgttgtgca ccaggactgg ctgaacggca aggagtacaa gtgcaagggtc 1020  
 tccaacaaag gcctcccagc ccccatcgag aaaaccatct ccaaaaccaa agggcagccc 1080

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cgagaaccac aggtgtacac cctgccccca tcccgggagg agatgaccaa gaaccaggtc 1140
agcctgacct gcctgggtcaa aggctttctac cccagcgaca tcgccgtgga gtgggagagc 1200
aatgggcagc cggagaacaa ctacaagacc acacctccca tgctggactc cgacggctcc 1260
ttcttctctc acagcaagct caccgtggac aagagcagggt ggcagcaggg gaacgtcttc 1320
tcatgtccg tgatgcatga ggctctgcac aaccactaca cgcagaagag cctctccctg 1380
tctccgggta aatga 1395

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<210> 29
<211> 489
<212> DNA
<213> Homo sapiens

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<400> 29
cctgggagggt ccctgagact ctctgtgca gcgtctggat tcaccttcag tagtcatggc 60
atccactggg tccgccaggc tccaggcaag gggctggagt ggggtggcagt tatatggtat 120
gatggaagaa ataaagacta tgcagactcc gtgaagggcc gattcaccat ctccagagac 180
aattccaaga agacgctgta tttgcaaatt aacagcctga gagccgagga cacggctgtg 240
tattactgtg cgagagtggc cccactgggg ccacttgact actggggcca gggaaccctg 300
gtcaccgtct cctcagcctc caccaagggc ccatcggtct tccccctggc gccctgctcc 360
aggagcacct ccgagagcac agcggccctg ggctgcctgg tcaaggacta cttccccgaa 420
ccggtgacgg tgctcgtggaa ctcaggcgct ctgaccagcg gcgtgcacac cttcccagct 480
gtcctacag 489

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<210> 30
<211> 1392
<212> DNA
<213> Homo sapiens

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<400> 30
atggagtttg ggctgagctg ggttttctc gttgctcttt taagagggtg ccagtgtcag 60
gtgcagctgg tggagtctgg gggaggcgtg gtcgagcctg ggaggccct gagactctcc 120
tgtacagcgt ctggattcac cttcagtagt tatggcatgc actgggtccg ccaggctcca 180
ggcaaggggc tggagtgggt ggcagttata tggtagatg gaagcaataa acactatgca 240
gactccgcga agggccgatt caccatctcc agagacaatt ccaagaacac gctgtatctg 300
caaatgaaca gcctgagagc cgaggacacg gctgtgtatt actgtgcgag agccggactg 360
ctgggttact ttgactactg gggccaggga accctggtca ccgtctctc agcctccacc 420
aagggcccat cggctcttccc cctggcgccc tgctccagga gcacctccga gagcacagcg 480
gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacgggtgc gtggaactca 540
ggcgctctga ccagcggcgt gcacaccttc ccagctgtcc tacagtccctc aggactctac 600
tccctcagca gcgtgggtgac cgtgccctcc agcaacttcg gcacccagac ctacacctgc 660
aacgtagatc acaagcccag caacaccaag gtggacaaga cagttgagcg caaatgttgt 720
gtcgagtgcc caccgtgccc agcaccacct gtggcaggac cgtcagctct cctcttcccc 780
ccaaaaccca aggacacct catgatctcc cggacccctg aggtcacgtg cgtggtgggtg 840
gacgtgagcc acgaagacc caggtccag ttcaactggt acgtggacgg cgtggagggtg 900
cataatgcca agacaaagcc acgggaggag cagttcaaca gcacgttccg tgtggtcagc 960
gtcctcaccg ttgtgcacca ggactggctg aacggcaagg agtacaagt caaggtctcc 1020
aacaaaggcc tcccagcccc catcgagaaa accatctcca aaaccaaagg gcagccccga 1080
gaaccacagg tgtacacct gcccccattc cgggaggaga tgaccaagaa ccagggtcagc 1140
ctgacctgct tggtaaaaagg cttctacccc agcgacatcg ccgtggagtg ggagagcaat 1200
gggcagccgg agaacaacta caagaccaca cctcccatgc tggactccga cggctccttc 1260
ttcctctaca gcaagctcac cgtggacaag agcagggtggc agcaggggaa cgtcttctca 1320
tgctccgtga tgcattgagg tctgcacaac cactacacgc agaagagcct ctccctgtct 1380
ccgggtaaat ga 1392

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<210> 31

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<211> 507  
 <212> DNA  
 <213> Homo sapiens

<400> 31  
 ggcgtggtcc agcctgggag gtccctgaga ctctcctgtg cagcgtctgg attcaccttc 60  
 agtagctatg gcatgcactg ggtccgccag gctccaggca aggggctgga gtgggtggca 120  
 gttatatggt atgatggaag taataaatac tatgcagact ccgtgaaggg ccgattcacc 180  
 atctccagag acaattccaa gaacacgctg tatctgcaaa tgaacagcct gagagccgag 240  
 gacacggctg tgtattactg tgcgagaggg gcccgataaa taacccttg tatggacgtc 300  
 tggggccaag ggaccacggt caccgtctcc tcagcctcca ccaaggggcc atcggctctc 360  
 ccctggcgcg cctgtccag gagcacctcc gagagcacag cggccctggg ctgcctggtc 420  
 aaggactact tccccgaacc ggtgacggtg tcgtggaact caggcgctct gaccagcggc 480  
 gtgcacacct tcccagctgt cctacag 507

<210> 32  
 <211> 501  
 <212> DNA  
 <213> Homo sapiens

<400> 32  
 ggcgtggtcc agcctgggag gtccctgaga ctctcctgtg tagcgtctgg attcatcttc 60  
 agtagtcatg gcatccactg ggtccgccag gctccaggca aggggctgga gtgggtggca 120  
 gttatatggt atgatggaag aaataaagac tatgcagact ccgtgaaggg ccgattcacc 180  
 atctccagag acaattccaa gaacacgctg tatttgcaaa tgaacagcct gagagccgag 240  
 gacacggctg tgtattactg tgcgagagt gcccactgg ggccacttga ctactggggc 300  
 cagggaaccc tggtcaccgt ctctcagcc tccaccaagg gcccatcggt cttccccctg 360  
 gcgcctgtct ccaggagcac ctccgagagc acagcggccc tgggctgcct ggtcaaggac 420  
 tacttccccg aaccggtgac ggtgtcgtgg aactcaggcg ctctgaccag cggcgtgcac 480  
 accttcccag ctgtcctaca g 501

<210> 33  
 <211> 516  
 <212> DNA  
 <213> Homo sapiens

<400> 33  
 tcggggcccag gactggtgaa gccttcacag atcctgtccc tcacctgcac tgtctctggt 60  
 ggctccatca gcagtgggtg tctactactg agctggatcc gccagcacc agggaagggc 120  
 ctggagtgga ttgggtacat ctattacatt gggaaacacct actacaaccc gtccctcaag 180  
 agtcgagtta ccatatcagt agacacgtct aagaaccagt tctccctgaa gctgagctct 240  
 gtgactgccg cggacacggc cgtgtattat tgtgcgagag atagtgggga ctactacggt 300  
 atagacgtct ggggccaagg gaccacggtc accgtctcct cagcttccac caaggggcca 360  
 tccgtcttcc ccctggcgcc ctgctccagg agcacctccg agagcacagc cgccctgggc 420  
 tgcttggtca aggactactt ccccgaaacc gtgacggtgt cgtggaactc aggcgcctgt 480  
 accagcggcg tgcacacctt cccggctgtc ctacaa 516

<210> 34  
 <211> 459  
 <212> DNA  
 <213> Homo sapiens

<400> 34  
 cctgggaggt ccctgagact ctctgtgca gcgtctggat tcaccttcag tagtcatggc 60  
 atccactggg tccgccaggc tccaggcaag gggctggagt ggggtggcagt tatatggtat 120



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gatggaagaa ataaagacta tgcagactcc gtgaagggcc gattcaccat ctccagagac 180
aattccaaga acacgctgta ttgcaaagt aacagcctga gagccgagga cacggctgtg 240
tattactgtg cgagagtggc cccactgggg ccacttgact actggggcca gggaaccctg 300
gtcaccgtct cctcagcctc caccaagggc ccacggtct tccccctggc gccctgctcc 360
aggagcacct ccgagagcac agcggccctg ggctgcctgg tcaaggacta cttccccgaa 420
ccggtgacgg tgctcgtgaa ctcaggcgct ctgaccagc 459

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<210> 35

<211> 503

<212> DNA

<213> Homo sapiens

<400> 35

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ggcgtggtcc agcctgggag gtccctgaga ctctcctgtg cagcgtctgg attcaccttc 60
agtagctatg gcatgcactg ggtccgccag gctccaggca aggggctgga gtgggtggca 120
gttatatggt atgatggaag taataaatac tatgcagact ccgtgaaggg ccgattcacc 180
atctccagag acaattccaa gaacacgctg tatctgcaaa tgaacagcct gagagccgag 240
gacacggctg tgtattactg tgcgagagat ccgaggggag ctacccttta ctactactac 300
taccggtkkg acgtctgggg ccaagggacc acggtcaccg tctcctcagc ctccaccaag 360
ggcccatcgg tcttccccct ggcgccctgc tccaggagca cctccgagag cacagcggcc 420
ctgggctgcc tgggtcaagg ctacttcccc gaaccggtga cggtgtcgtg gaactcaggc 480
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<210> 36

<211> 451

<212> DNA

<213> Homo sapiens

<400> 36

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gttatatggt atgatggaag tcataaatac tatgcagact ccgtgaaggg ccgattcacc 180
atctccagag acaattccaa gaacacgctg tatctgcaaa tgaacagcct gagagccgag 240
gacacggctg tgtattactg tgcgagaggc gctgtagtag taccagctgc tatggacgtc 300
tggggccaag ggaccacggt caccgtctcc tcagcctcca ccaagggccc atcggctctc 360
cccctggcgc cctgctccag gagcacctcc gagagcacag cggccctggg ctgcctggtc 420
aaggactact tccccgaacc ggtgacggtg t 451

```

<210> 37

<211> 438

<212> DNA

<213> Homo sapiens

<220>

<221> modified\_base

<222> (64)

<223> a, c, t, g, other or unknown

<400> 37

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atatggtctg atggaagtca taaatactat gcagactccg tgaagggccg attcaccatc 180
tccagagaca attccaagaa cacgctgtat ctgcaaatga acagcctgag agccgaggac 240
acggctgtgt attactgtgc gagaggaact atgatagtag tgggtaccct tgactactgg 300
ggccagggaa ccctggtcac cgtctcctca gcctccacca agggcccatc ggtcttcccc 360

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ctggcgccct gctccaggag cacctccgag agcacagcgg ccctgggctg cctgggtcaag 420  
gactacttcc ccgaaccg 438

<210> 38  
<211> 562  
<212> DNA  
<213> Homo sapiens

<400> 38  
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gcctgggagg tccctgagac tctcctgtgc agcgtctgga ttcaccttca gtagctatgg 120  
cgtgcactgg gtccgccagg ctccaggcaa ggggctggag tgggtggcag ttatatggta 180  
tgatggaagt aataaatact atgcagactc cgtgaagggc cgattcacca tctccagaga 240  
caattccaag agcacgctgt atctgcaaat gaacagcctg agagccgagg acacggctgt 300  
gtattattgt gcgagagact cgtattacga tttttggagt ggtcggggcg gtatggacgt 360  
ctggggccaa gggaccacgg tcaccgtctc ctacagcctcc accaagggcc catcggtctt 420  
ccccctggcg ccctgtctca ggagcacctc cgagagcaca gcggccctgg gctgcctggg 480  
caaggactac ttccccgaac cgggtgacggg gtcgtggaac tcaggcgctc tgaccagcgg 540  
cgtgcacacc ttcccagctg tc 562

<210> 39  
<211> 490  
<212> DNA  
<213> Homo sapiens

<400> 39  
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tggcatgatg gaaataataa atactatgca gagtccgtga agggccgatt caccatctcc 180  
agagacaatt ccaagaacac gctgtatctg caaatgaaca gcctgagagc cgaggacacg 240  
gctgtatatt actgtgcgag agatcagggc actggctggg acggaggctt tgacttctgg 300  
ggccagggaa ccctggtcac cgtctcctca gcctccacca agggcccatc ggtcttcccc 360  
ctggcgccct gctccaggag cacctccgag agcacagcgg ccctgggctg cctgggtcaag 420  
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cacaccttcc 490

<210> 40  
<211> 708  
<212> DNA  
<213> Homo sapiens

<400> 40  
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gaaatttgtg tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 120  
ctctcctgca gggccagtc gagtattagc agcagcttct tagcctggta ccagcagaga 180  
cctggccagg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcatcca 240  
gacaggttca gtggcagtggt gtctgggaca gacttcactc tcaccatcag cagactggag 300  
cctgaagatt ttgcagtgtg ttactgtcag cagtatggta cctcaccctg gacgttcggc 360  
caagggacca aggtggaaat caaacgaact gtggctgcac catctgtctt catcttcccc 420  
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc 480  
tatcccagag aggccaaagt acagtggaa gtggataacg ccctccaatc gggtaactcc 540  
caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg 600  
acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt caccatcag 660  
ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtggttag 708

<210> 41  
 <211> 702  
 <212> DNA  
 <213> Homo sapiens

<400> 41  
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 gaaatttgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 120  
 ctctcctgca ggaccagtgt tagcagcagt tacttagcct ggtaccagca gaaacctggc 180  
 caggctccca ggctcctcat ctatggtgca tccagcaggg ccaactggcat cccagacagg 240  
 ttcagtggca gtgggtctgg gacagacttc actctcacca tcagcagact ggagcctgaa 300  
 gattttgcag tctattactg tcagcagtat ggcactctac ccttcacttt cggcggaggg 360  
 accaaggtgg agatcaagcg aactgtggct gcaccatctg tcttcacttt cccgccatct 420  
 gatgagcagt tgaaatctgg aactgcctct gttgtgtgcc tgctgaataa cttctatccc 480  
 agagaggcca aagtacagtg gaagggtggat aacgccctcc aatcgggtaa ctcccaggag 540  
 agtgtcacag agcaggacag caaggacagc acctacagcc tcagcagcac cctgacgctg 600  
 agcaaagcag actacgagaa acacaaagtc tacgcctgcg aagtcaccca tcagggcctg 660  
 agctcgcccg tcacaaagag cttcaacagg ggagagtgtt ag 702

<210> 42  
 <211> 417  
 <212> DNA  
 <213> Homo sapiens

<400> 42  
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 gtcagcagct acttagcctg gtaccagcag aaacctggcc aggtcccag actcctcatc 120  
 tatggtgcat ccagcagggc cactggcatc ccagacaggt tcagtggcag tgggtctggg 180  
 acagacttca ctctcaccat cagcagactg gagcctgagg attttgcagt gtattactgt 240  
 cagcagtatg gtaggtcacc attcactttc ggccctggga ccaaagtgga tatcaagcga 300  
 actgtggctg caccatctgt cttcatcttc ccgccatctg atgagcagtt gaaatctgga 360  
 actgcctctg ttgtgtgcct gctgaataac ttctatccca gagaggccaa agtacag 417

<210> 43  
 <211> 705  
 <212> DNA  
 <213> Homo sapiens

<400> 43  
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 gaaatttgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 120  
 ctctcctgta gggccagtca aagtgttagc agctacttag cctggtacca acagaaacct 180  
 ggccaggctc ccaggccctt catctatggt gtatccagca gggccactgg catcccagac 240  
 aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag actggagcct 300  
 gaagattttg cagtgtatta ctgtcagcag tatggtatct caccattcac ttccggccct 360  
 gggaccaaag tggatatcaa acgaactgtg gctgcaccat ctgtcttcat cttcccgcga 420  
 tctgatgagc agttgaaatc tggaaactgcc tctgttgtgt gctgtctgaa taacttctat 480  
 ccagagagag ccaaagtaca gtggaagggtg gataacgccc tccaatcggg taactcccag 540  
 gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg 600  
 ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc 660  
 ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gttag 705

<210> 44  
 <211> 458

<212> DNA  
 <213> Homo sapiens

<400> 44  
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 agtcagagca ttaacaccta ttttaatttg tatcagcaga aaccagggaa agccccctaac 120  
 ttctctgatct ctgctacatc catttttgcaa agtgggggtcc catcaagggt ccgtggcagt 180  
 ggctctggga caaattttcac tctcaccatc aacagtcttc atcctgaaga ttttgcaact 240  
 tactactgtc aacagagtta cagtacccca ttacttttcg gccctgggac caaagtggat 300  
 atcaaacgaa ctgtggctgc accatctgtc ttcatcttcc cgccatctga tgagcagttg 360  
 aaatctggaa ctgcctctgt tgtgtgcctg ctgaataact tctatcccag agaggccaaa 420  
 gtacagtgga aggtggataa cgccctccaa tcgggtaa 458

<210> 45  
 <211> 426  
 <212> DNA  
 <213> Homo sapiens

<400> 45  
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 cagagtatta gcagcaattt cttagcctgg taccagcaga aacctggcca ggctcccagg 120  
 ctctctcatct atcgtccatc cagcagggcc actggcatcc cagacagttt cagtggcagt 180  
 gggctctggga cagacttcac tctcaccatc agcagactgg agcctgagga ttttgcat 240  
 tattactgtc agcagtatgg tacgtcacca ttacttttcg gccctgggac caaagtggat 300  
 atcaagcgaa ctgtggctgc accatctgtc ttcatcttcc cgccatctga tgagcagttg 360  
 aaatctggaa ctgcctctgt tgtgtgcctg ctgaataact tctatcccag agaggccaaa 420  
 gtacag 426

<210> 46  
 <211> 465  
 <212> DNA  
 <213> Homo sapiens

<400> 46  
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 cagagcattg gtagtagctt acattgggtat cagcagaaac cagatcagtc tccaaagctc 120  
 ctcatcaagt atgcttccca gtccttctct ggggtcccct cgagggttcag tggcagtgga 180  
 tctgggacag atttcaccct caccatcaat agcctggaag ctgaagatgc tgcaacgtat 240  
 tactgtcatc agagtagtag tttaccgctc actttcggcg gagggaccaa ggtggagatc 300  
 aaacgaactg tggctgcacc atctgtcttc atcttcccgc catctgatga gcagttgaaa 360  
 tctggaactg cctctgttgt gtgcctgtg aataacttct atcccagaga ggccaaagta 420  
 cagtggaaag tggataacgc cctccaatcg ggtaactccc aggag 465

<210> 47  
 <211> 440  
 <212> DNA  
 <213> Homo sapiens

<400> 47  
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 agtcagagtgc tcagcagcta cttagcctgg taccagcaga aacctggcca ggctcccagg 120  
 ctctctcatct atgggtgcac cagcagggcc actggcatcc cagacaggtt cagtggcagt 180  
 gggctctggga cagacttcac tctcaccatc agcagactgg agcctgagga ttttgtagt 240  
 tattactgtc aacagtatgg taggtcacca ttacttttcg gccctgggac caaagttagat 300  
 atcaagcgaa ctgtggctgc accatctgtc ttcatcttcc cgccatctga tgagcagttg 360

```

aaatctggaa ctgcctctgt tgtgtgcctg ctgaataact tctatcccag agaggccaaa 420
gtacagtgga aaggtggata                                     440

```

```

<210> 48
<211> 417
<212> DNA
<213> Homo sapiens

```

```

<400> 48
ccatcctccc tgtctgcatc tgtaggagac agagtcacca tcacttgccg ggcaagtcag 60
agcattaaca gctattttaga ttggtatcag cagaaaccag ggaaagcccc taaactcctg 120
atctatgctg catccagttt gcaaagtggg gtcccatcaa ggttcagtgg cagtggatct 180
gggacagatt tcaactctac catcagcagt ctgcaacctg aagattttgc aacttactac 240
tgtcaacagt attacagtac tccattcact ttgggcctg ggaccaaagt ggaaatcaaa 300
cgaactgtgg ctgcaccatc tgtcttcac ttcccgccat ctgatgagca gttgaaatct 360
ggaactgcct ctgttgtgtg cctgctgaat aacttctatc ccagagaggc caaagta 417

```

```

<210> 49
<211> 402
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> modified_base
<222> (207)
<223> a, c, t, g, other or unknown

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<400> 49
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aagttcctga tctatgttgc atctattttg caaagtgggg tcccatcagg gttcagtgcc 180
agtggatctg ggccagattt cactctnacc atcagcagtc tgcaacctga agattttgca 240
acttactact gtcaacagag ttacagtacc ccattcactt tcggccctgg gaccaaagtg 300
gatatcaaac gaactgtggc tgcaccatct gtcttcatct tcccgccatc tgatgagcag 360
ttgaaatctg gaactgcctc tgttgtgtgc ctgctgaata ac 402

```

```

<210> 50
<211> 451
<212> DNA
<213> Homo sapiens

```

```

<400> 50
accagtcctc catcctccct gtctgcatct gtaggagaca gagtcaccat cacttgccgg 60
gcaagtcaga gcatttgcaa ctattttaa ttggtatcagc agaaaccagg aaaagcccct 120
agggtcctga tctatgctgc atccagtttg caaggtgggg tcccgtaag gttcagtggc 180
agtggatctg ggacagattg cactctcacc atcagcagtc tgcaacctga agattttgca 240
acttactact gtcaacagag ttacactacc ccattcactt tcggccctgg gaccagagtg 300
gatatcgaac gaactgtggc tgcaccatct gtcttcatct tcccgccatc tgatgagcag 360
ttgaaatctg gaactgcctc tgttgtgtgc ctgctgaata acttctatcc cagagaggcc 420
aaagtacagt ggaaggtgga taacgcctat t 451

```

```

<210> 51
<211> 419
<212> DNA

```

<213> Homo sapiens

<400> 51

```
ccactctccc tgcccgctcac ccttggacag ccggcctcca tctcctgcag gtctagtcaa 60
agcctcgtat acagtgatgg aaacacctac ttgaattggg ttcagcagag gccaggccaa 120
tctccaaggc gcctaattta taaggtttct aactgggact ctgggggtccc agacagattc 180
agcggcagtg ggtcaggcac tgatttcaca ctgaaaatca gcagggtgga ggctgaggat 240
gttgggggtt attactgcat gcaagggtca cactggcctc cgacgttcgg ccaagggacc 300
aaggtggaaa tcaaacgaac tgtggctgca ccatctgtct tcatcttccc gccatctgat 360
gagcagttga aatctggaac tgcctctgtt gtgtgcctgc tgaataactt ctatcccac 419
```

<210> 52

<211> 419

<212> DNA

<213> Homo sapiens

<400> 52

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cctggagagc cggtttccat ctcttgcagg tctagtcaga gcctcctgca tagtaatgga 60
tacaactatt tggattggta cctgcagaag ccaggacagt ctccacagct cctgatctat 120
ttgggttcta atcgggcctc cggggtccct gacaggttca gtggcagtg atcaggcaca 180
gattttacac tgaaactcag cagagtggag gctgaggatg ttggggttta ttactgcatg 240
caagctctac aaactcctct cactttcggc ggagggacca aggtggagat caaacgaact 300
gtggctgcac catctgtctt catcttcccg ccatctgatg agcagttgaa atctggaact 360
gcctctgttg tgtgcctgct gaataaactt tatccagar aggccaaagt acattccat 419
```

<210> 53

<211> 1392

<212> DNA

<213> Homo sapiens

<400> 53

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tgtgtagcgt ctggattcac cttcagtagc catggcatgc actgggtccg ccaggctcca 180
ggcaaggggc tggagtgggt ggcagttata tggtagtgat gaagaaataa atactatgca 240
gactccgtga agggccgatt caccatctcc agagacaatt ccaagaacac gctgtttctg 300
caaatgaaca gcctgagagc cgaggacacg gctgtgtatt actgtgcgag aggaggtcac 360
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aagggcccat cggctcttccc cctggcgccc tgcctccagg gcacctccga gagcacagcg 480
gccctgggct gcctgggcaa ggactacttc cccgaaccgg tgacggtgtc gtggaactca 540
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tccctcagca gcgtggtgac cgtgccctcc agcaacttcg gcacccagac ctacacctgc 660
aacgtagatc acaagcccag caacaccaag gtggacaaga cagttgagcg caaatgttgt 720
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aacaaggccc tcccagcccc catcgagaaa accatctcca aaaccaaagg gcagccccga 1080
gaaccacagg tgtacacct gcccccattc cgggaggaga tgaccaagaa ccaggtcagc 1140
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gggcagccgg agaacaacta caagaccaca cctcccattg tggactccga cggctccttc 1260
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ccgggtaaat ga 1392
```

<210> 54  
 <211> 1999  
 <212> DNA  
 <213> Homo sapiens

<400> 54  
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 tgtgtagcgt ctggattcac cttcagtagc catggcatgc actgggtccg ccaggctcca 180  
 ggcaaggggc tggagtgggt ggcagttata tggatgatg gaagaaataa atactatgca 240  
 gactccgtga agggccgatt caccatctcc agagacaatt ccaagaacac gctgtttctg 300  
 caaatgaaca gcctgagagc cgaggacacg gctgtgtatt actgtgcgag aggaggtcac 360  
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 agggacaggc cccagctggg tgtgacacg tccacctcca tctcttctc agcaccacct 1260  
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 ttcaactggg acgtggacgg cgtggaggtg cataatgcca agacaaagcc acgggaggag 1440  
 cagttcaaca gcacgttccg tgtggtcagc gtccctcaccg ttgtgcacca ggactggctg 1500  
 aacggcaagg agtacaagtg caagggtctc aacaaaggcc tcccagcccc catcgagaaa 1560  
 accatctcca aaaccaaagg tgggacccgc ggggtatgag ggccacatgg acagaggccg 1620  
 gctcggccca ccctctgccc tgggagtgc cgctgtgcca acctctgtcc ctacagggca 1680  
 gccccgagaa ccacaggtgt acacctgcc cccatcccgg gaggagatga ccaagaacca 1740  
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 gagcaatggg cagccggaga acaactaca gaccacacct cccatgctgg actccgacgg 1860  
 ctcttcttct ctctacagca agctcaccgt ggacaagagc aggtggcagc aggggaacgt 1920  
 cttctcatgc tccgtgatgc atgaggctct gcacaaccac tacacgcaga agagcctctc 1980  
 cctgtctccg ggtaaatga 1999

<210> 55  
 <211> 1392  
 <212> DNA  
 <213> Homo sapiens

<400> 55  
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 gtgcagctgg tggagtctgg gggaggcgtg gtccagcctg ggaggtccct gagactctcc 120  
 tgtgtagcgt ctggattcac cttcagtagc catggcatgc actgggtccg ccaggctcca 180  
 ggcaaggggc tggagtgggt ggcagttata tggatgatg gaagaaataa atactatgca 240  
 gactccgtga agggccgatt caccatctcc agagacaatt ccaagaacac gctgtttctg 300  
 caaatgaaca gcctgagagc cgaggacacg gctgtgtatt actgtgcgag aggaggtcac 360  
 ttcggctcctt ttgactactg gggccaggga accctgggtca ccgtctcctc agcctccacc 420  
 aaggggcccat cgggtcttccc cctggcgccc tgctccagga gcacctccga gagcacagcg 480  
 gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacggtgtc gtggaactca 540

```

ggcgctctga ccagcggcgt gcacaccttc ccagctgtcc tacagtcttc aggactctac 600
tccctcagca gcgtgggtgac cgtgccctcc agcaacttcg gcacccagac ctacacctgc 660
aacgtagatc acaagcccag caacaccaag gtggacaaga cagttgagcg caaatgttgt 720
gtcgagtgcc caccgtgccc agcaccacct gtggcaggac cgtcagtctt cctcttcccc 780
ccaaaacca aggacacctt catgatctcc cggaccctcg aggtcacgtg cgtgggtggtg 840
gacgtgagcc acgaagaccc cgagggtccag ttcaactggt acgtggacgg cgtggagggtg 900
cataatgcc aagacaaagcc acgggaggag cagttccaaa gcacgttccg tgtggtcagc 960
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gggcagccgg agaacaacta caagaccaca cctcccatgc tggactccga cggctccttc 1260
ttcctctaca gcaagctcac cgtggacaag agcagggtggc agcaggggaa cgtcttctca 1320
tgctccgtga tgcattgagg tctgcacaac cactacacgc agaagagcct ctccctgtct 1380
ccgggtaaat ga                                     1392

```

<210> 56  
 <211> 708  
 <212> DNA  
 <213> Homo sapiens

```

<400> 56
atggaaaccc cagcgcagct tctcttcctc ctgctactct ggctcccaga taccaccgga 60
gaaatttgtg tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 120
ctctcctgca gggccagtc gagtattagc agcagcttct tagcctggta ccagcagaga 180
cctggccagg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcatccca 240
gacaggttca gtggcagtg gtctgggaca gacttcactc tcaccatcag cagactggag 300
cctgaagatt ttgcagtgt ttactgtcag cagtatggta cctcaccctg gacgttcggc 360
caagggacca aggtggaaat caaacgaact gtggctgcac catctgtctt catcttcccg 420
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc 480
tatcccagag aggccaaagt acagtggaag gtggataacg cctccaatc gggtaactcc 540
caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg 600
acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt caccatcag 660
ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtggttag 708

```

<210> 57  
 <211> 1395  
 <212> DNA  
 <213> Homo sapiens

```

<400> 57
atggagtttg ggctgagctg ggttttcctc gttgctcttt taagaggtgt ccagtgtcag 60
gtgcagctgg tggagtctgg gggaggcgtg gtccagcctg ggaggccct gagactctcc 120
tgtacagcgt ctggattcac cttcagtaac tatggcatgc actgggtccg ccaggctcca 180
ggcaaggggc tggagtgggt ggcagttata tggtatgatg gaagtaataa acactatgga 240
gactccgtga agggccgatt caccatctcc agtgacaatt ccaagaacac gctgtatctg 300
caaatgaaca gcctgagagc cgaggacacg gctgtgtatt actgtgcgag aggagagaga 360
ctggggtcct actttgacta ctggggccag ggaacccctg tcaccgtctc ctacgcctcc 420
accaaggggc catcggtctt ccccctggcg ccctgctcca ggagcacctc cgagagcaca 480
gcggccctgg gctgcctggt caaggactac ttccccgaac cggtgacggg gtcgtggaac 540
tcaggcgctc tgaccagcgg cgtgcacacc ttcccagctg tcctacagtc ctcaggactc 600
tactccctca gcagcgtgg gaccgtgccc tccagcaact tcggcaccca gacctacacc 660
tgcaacgtag atcacaagcc cagcaacacc aaggtggaca agacagttga gcgcaaatgt 720
tgtgtcgagt gccaccctg cccagcacca cctgtggcag gaccgtcagt cttcctcttc 780
ccccaaaac ccaaggacac cctcatgatc tcccggaccc ctgaggtcac gtgcgtgggtg 840
gtggacgtga gccacgaaga ccccgaggtc cagttcaact ggtacgtgga cggcgtggag 900

```



```

gtgcataatg ccaagacaaa gccacgggag gagcagttca acagcacggt ccggtgtggtc 960
agcgctcctca ccgttgtgca ccaggactgg ctgaacggca aggagtacaa gtgcaaggctc 1020
tccaacaaag gcctcccagc ccccatcgag aaaaccatct ccaaaaccaa agggcagccc 1080
cgagaaccac aggtgtacac cctgccccca tccggggagg agatgaccaa gaaccaggctc 1140
agcctgacct gcctgggtcaa aggtttctac cccagcgaca tcgccgtgga gtgggagagc 1200
aatgggcagc cggagaacaa ctacaagacc acacctccca tgctggactc cgacggctcc 1260
ttcttctctt acagcaagct caccgtggac aagagcaggt ggcagcaggg gaacgtcttc 1320
tcatgctccg tgatgcatga ggctctgcac aaccactaca cgcagaagag cctctccctg 1380
tctccgggta aatga                                     1395

```

<210> 58

<211> 702

<212> DNA

<213> Homo sapiens

<400> 58

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atggaaaccc cagcgcagct tctcttcttc ctgctactct ggctcccaga taccaccgga 60
gaaatttgtg tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 120
ctctcctgca ggaccagtgt tagcagcagt tacttagcct ggtaccagca gaaacctggc 180
caggctccca ggctcctcat ctatgggtgca tccagcaggg cactggcat cccagacagg 240
ttcagtggca gtgggtctgg gacagacttc actctacca tcagcagact ggagcctgaa 300
gattttgcag tctattactg tcagcagtat ggcattctac ccttcacttt cggcggaggg 360
accaaggtgg agatcaagcg aactgtggct gcaccatctg tcttcatctt cccgccatct 420
gatgagcagt tgaaatctgg aactgcctct gttgtgtgcc tgctgaataa cttctatccc 480
agagaggcca aagtacagtg gaagggtgat aacgccctcc aatcgggtaa ctcccaggag 540
agtgtcacag agcaggacag caaggacagc acctacagcc tcagcagcac cctgacgctg 600
agcaaagcag actacgagaa acacaaagtc tacgcctgcg aagtcaccca tcagggcctg 660
agctcgcccg tcacaaagag cttcaacagg ggagagtgtt ag                                     702

```

<210> 59

<211> 1392

<212> DNA

<213> Homo sapiens

<400> 59

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atggagtttg ggctgagctg ggttttcttc gttgctcttt taagaggtgt ccagtgtcag 60
gtgcagctgg tggagtctgg gggaggcggt gtcgagcctg ggaggtccct gagactctcc 120
tgtacagcgt ctggattcac cttcagtagt tatggcatgc actgggtccg ccaggctcca 180
ggcaaggggc tggagtgggt ggcagttata tggtagatg gaagcaataa acactatgca 240
gactccgcga agggccgatt caccatctcc agagacaatt ccaagaacac gctgtatctg 300
caaatgaaca gcctgagagc cgaggacacg gctgtgtatt actgtgagag agccggactg 360
ctgggttact ttgactactg gggccaggga accctggtca ccgtctcttc agcctccacc 420
aagggcccat cggctcttccc cctggcgccc tgctccagga gcacctccga gagcacagcg 480
gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacggtgtc gtggaactca 540
ggcgctctga ccagcggcgt gcacaccttc ccagctgtcc tacagtcttc aggactctac 600
tccctcagca gcgtgggtgac cgtgccctcc agcaacttgc gcacccagac ctacacctgc 660
aacgtagatc acaagcccag caacaccaag gtggacaaga cagttgagcg caaatgttgt 720
gtcgagtgcc caccgtgccc agcaccacct gtggcaggac cgtcagttct cctcttcccc 780
ccaaaaccca aggacaccct catgatctcc cggacccctg aggtcacgtg cgtgggtggtg 840
gacgtgagcc acgaagaccc cgagggtccag ttcaactggt acgtggacgg cgtggagggtg 900
cataatgcc aagacaaagcc acgggaggag cagttcaaca gcacgttccg tgtggtcagc 960
gtcctcaccg ttgtgcacca ggactggctg aacggcaagg agtacaagt caaggtctcc 1020
aacaaaaggc tcccagcccc catcgagaaa accatctcca aaaccaaagg gcagccccga 1080
gaaccacagg tgtacacctt gccccatcc cgggaggaga tgaccaagaa ccaggtcagc 1140
ctgacctgcc tgggtcaaagg cttctacccc agcgacatcg ccgtggagtg ggagagcaat 1200
gggcagcccg agaacaacta caagaccaca cctcccatgc tggactccga cggctccttc 1260

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ttcctctaca	gcaagctcac	cgtggacaag	agcaggtggc	agcaggggaa	cgtcttctca	1320
tgctccgtga	tgcattgaggc	tctgcacaac	cactacacgc	agaagagcct	ctccctgtct	1380
ccgggtaaat	ga					1392

<210> 60  
 <211> 705  
 <212> DNA  
 <213> Homo sapiens

<400> 60

atggaaaccc	cagcgcagct	tctcttcctc	ctgctactct	ggctcccaga	taccaccgga	60
gaaattgtgt	tgacgcagtc	tccaggcacc	ctgtctttgt	ctccagggga	aagagccacc	120
ctctcctgta	gggccagtc	aagtgttagc	agctacttag	cctgggtacca	acagaaacct	180
ggccaggctc	ccaggcccct	catctatggt	gtatccagca	gggccactgg	catcccagac	240
aggttcagtg	gcagtgggtc	tgggacagac	ttcactctca	ccatcagcag	actggagcct	300
gaagattttg	cagtgtatta	ctgtcagcag	tatggtatct	caccattcac	tttcgggccct	360
gggaccaaag	tggatatcaa	acgaactgtg	gctgcaccat	ctgtcttcat	cttcccgccca	420
tctgatgagc	agttgaaatc	tggaaactgcc	tctgttgtgt	gcctgctgaa	taacttctat	480
cccagagagg	ccaaagtaca	gtggaaggtg	gataacgccc	tccaatcggg	taactcccag	540
gagagtgtca	cagagcagga	cagcaaggac	agcacctaca	gcctcagcag	caccctgacg	600
ctgagcaaag	cagactacga	gaaacacaaa	gtctacgcct	gcgaagtcac	ccatcagggc	660
ctgagctcgc	ccgtcacaaa	gagcttcaac	aggggagagt	gtag		705

<210> 61  
 <211> 1413  
 <212> DNA  
 <213> Homo sapiens

<400> 61

atggagtttg	ggctgagctg	ggttttcctc	gttgctcttt	taagaggtgt	ccagtgtcag	60
gtgcagctgg	tggagtctgg	gggaggcgtg	gtccagcctg	ggaggtccct	gagactctcc	120
tgtgcagcgt	ctggattcac	cttcagtagc	tatggcatgc	actgggtccg	ccaggctcca	180
ggcaaggggc	tggagtgggt	ggcagttata	tggatgatg	gaagtaataa	atactatgca	240
gactccgtga	agggccgatt	caccatctcc	agagacaatt	ccaagaacac	gctgtatctg	300
caaatgaaca	gcctgagagc	cgaggacacg	gctgtgtatt	actgtgagag	agatccgagg	360
ggagctaccc	tttactacta	ctactacggt	atggacgtct	ggggccaagg	gaccacggtc	420
accgtctcct	cagcctccac	caagggccca	tcggtcttcc	ccctggcgcc	ctgctccagg	480
agcacctccg	agagcacagc	ggccctgggc	tgcctggtca	aggactactt	ccccgaaccg	540
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ctacagtcct	caggactcta	ctccctcagc	agcgtggtga	ccgtgccctc	cagcaacttc	660
ggcaccacga	cctacacctg	caacgtagat	cacaagccca	gcaacaccaa	ggtggacaag	720
acagttgagc	gcaaatgttg	tgtcagagtgc	ccaccgtgcc	cagcaccacc	tgtggcagga	780
ccgtcagctc	tctcttccc	cccaaaaccc	aaggacaccc	tcatgatctc	ccggacccct	840
gaggtcacgt	gcgtgggtgt	ggacgtgagc	cacgaagacc	ccgaggtcca	gttcaactgg	900
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agcacgttcc	gtgtggtcag	cgtcctcacc	gttgtgcacc	aggactggct	gaacgggcaag	1020
gagtacaagt	gcaaggtctc	caacaaaagg	ctcccagccc	ccatcgagaa	aaccatctcc	1080
aaaaccaaa	ggcagcccgc	agaaccacag	gtgtacaccc	tgccccatc	ccgggaggag	1140
atgaccaaga	accaggtcag	cctgacctgc	ctggtcaaa	gcttctaccc	cagcgacatc	1200
gccgtggagt	gggagagcaa	tgggcagccg	gagaacaact	acaagaccac	acctcccatg	1260
ctggactccg	acggctcctt	cttctcttac	agcaagctca	ccgtggacaa	gagcaggtgg	1320
cagcagggga	acgtcttctc	atgctccgtg	atgcatgagg	ctctgcacaa	ccactacacg	1380
cagaagagcc	tctccctgtc	tccgggtaaa	tga			1413

<210> 62

<211> 714  
 <212> DNA  
 <213> Homo sapiens

<400> 62  
 atggacatga ggggtccccgc tcagctcctg ggggtcctgc tactctggct ccgaggtgcc 60  
 agatgtgaca tccagatgac ccagtcctcca tccctccctgt ctgcatctgt aggagacaga 120  
 gtcaccatca cttgcccgggc aagtcagagc attaacagct atttagattg gtatcagcag 180  
 aaaccaggga aagcccctaa actcctgac tcagtcctgc ccagtttgca aagtgggggc 240  
 ccatcaaggt tcagtgccag tggatctggg acagatttca ctctcaccat cagcagctctg 300  
 caacctgaag attttgcaac ttactactgt caacagtatt acagtactcc attcactttc 360  
 ggccctggga ccaaagtga aatcaaacga actgtggctg caccatctgt cttcatcttc 420  
 ccgccatctg atgagcagtt gaaatctgga actgcctctg ttgtgtgcct gctgaataac 480  
 ttctatccca gagaggccaa agtacagtgg aaggtggata acgccctcca atcgggtaac 540  
 tcccaggaga gtgtcacaga gcaggacagc aaggacagca cctacagcct cagcagcacc 600  
 ctgacgctga gcaaagcaga ctacgagaaa cacaaagtct acgcctgcga agtcacccat 660  
 cagggcctga gctcgccctg cacaaagagc ttcaacaggg gagagtgtta gtga 714

<210> 63  
 <211> 463  
 <212> PRT  
 <213> Homo sapiens

<400> 63  
 Met Glu Phe Gly Leu Ser Trp Val Phe Leu Val Ala Leu Leu Arg Gly  
 1 5 10 15  
 Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln  
 20 25 30  
 Pro Gly Arg Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe  
 35 40 45  
 Ser Ser His Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
 50 55 60  
 Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Arg Asn Lys Tyr Tyr Ala  
 65 70 75 80  
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn  
 85 90 95  
 Thr Leu Phe Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
 100 105 110  
 Tyr Tyr Cys Ala Arg Gly Gly His Phe Gly Pro Phe Asp Tyr Trp Gly  
 115 120 125  
 Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser  
 130 135 140  
 Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala  
 145 150 155 160  
 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val  
 165 170 175

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala  
 180 185 190  
 Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val  
 195 200 205  
 Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His  
 210 215 220  
 Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys  
 225 230 235 240  
 Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val  
 245 250 255  
 Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
 260 265 270  
 Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu  
 275 280 285  
 Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
 290 295 300  
 Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser  
 305 310 315 320  
 Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
 325 330 335  
 Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile  
 340 345 350  
 Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
 355 360 365  
 Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
 370 375 380  
 Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
 385 390 395 400  
 Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser  
 405 410 415  
 Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg  
 420 425 430  
 Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
 435 440 445  
 His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
 450 455 460

&lt;210&gt; 64

&lt;211&gt; 463

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 64

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Met Glu Phe Gly Leu Ser Trp Val Phe Leu Val Ala Leu Leu Arg Gly
 1           5           10           15

Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
          20           25           30

Pro Gly Arg Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe
          35           40           45

Ser Ser His Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50           55           60

Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Arg Asn Lys Tyr Tyr Ala
 65           70           75           80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
          85           90           95

Thr Leu Phe Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
          100          105          110

Tyr Tyr Cys Ala Arg Gly Gly His Phe Gly Pro Phe Asp Tyr Trp Gly
          115          120          125

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
          130          135          140

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
          145          150          155          160

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
          165          170          175

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
          180          185          190

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
          195          200          205

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
          210          215          220

Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
          225          230          235          240

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
          245          250          255

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
          260          265          270

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
          275          280          285

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys

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290		295		300
Thr Lys Pro Arg Glu Glu Gln Phe Gln Ser Thr Phe Arg Val Val Ser				
305		310		320
Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys				
	325	330		335
Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile				
	340	345		350
Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro				
	355	360		365
Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu				
	370	375		380
Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn				
385	390	395		400
Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser				
	405	410		415
Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg				
	420	425		430
Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu				
	435	440		445
His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys				
	450	455		460

<210> 65  
 <211> 235  
 <212> PRT  
 <213> Homo sapiens

<400> 65  
 Met Glu Thr Pro Ala Gln Leu Leu Phe Leu Leu Leu Leu Trp Leu Pro  
 1 5 10 15  
 Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser  
 20 25 30  
 Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser  
 35 40 45  
 Ile Ser Ser Ser Phe Leu Ala Trp Tyr Gln Gln Arg Pro Gly Gln Ala  
 50 55 60  
 Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro  
 65 70 75 80  
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile  
 85 90 95  
 Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr

100	105	110
Gly Thr Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys		
115	120	125
Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu		
130	135	140
Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe		
145	150	155
Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln		
165	170	175
Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser		
180	185	190
Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu		
195	200	205
Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser		
210	215	220
Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys		
225	230	235

<210> 66  
 <211> 464  
 <212> PRT  
 <213> Homo sapiens

<400> 66  
 Met Glu Phe Gly Leu Ser Trp Val Phe Leu Val Ala Leu Leu Arg Gly  
 1 5 10 15  
 Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln  
 20 25 30  
 Pro Gly Arg Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe  
 35 40 45  
 Ser Asn Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
 50 55 60  
 Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys His Tyr Gly  
 65 70 75 80  
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ser Asp Asn Ser Lys Asn  
 85 90 95  
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
 100 105 110  
 Tyr Tyr Cys Ala Arg Gly Glu Arg Leu Gly Ser Tyr Phe Asp Tyr Trp  
 115 120 125  
 Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro

130		135		140
Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr				
145		150		155
Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr				
		165		170
Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro				
		180		185
Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr				
		195		200
Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp				
		210		215
His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys				
		225		230
Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser				
		245		250
Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg				
		260		265
Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro				
		275		280
Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala				
		290		295
Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val				
		305		310
Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr				
		325		330
Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr				
		340		345
Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu				
		355		360
Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys				
		370		375
Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser				
		385		390
Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp				
		405		410
Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser				
		420		425
Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala				
		435		440
				445



Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
 450 455 460

<210> 67  
 <211> 233  
 <212> PRT  
 <213> Homo sapiens

<400> 67  
 Met Glu Thr Pro Ala Gln Leu Leu Phe Leu Leu Leu Leu Trp Leu Pro  
 1 5 10 15  
 Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser  
 20 25 30  
 Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Thr Ser Val Ser  
 35 40 45  
 Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg  
 50 55 60  
 Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg  
 65 70 75 80  
 Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg  
 85 90 95  
 Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile  
 100 105 110  
 Ser Pro Phe Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr  
 115 120 125  
 Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu  
 130 135 140  
 Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro  
 145 150 155 160  
 Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly  
 165 170 175  
 Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr  
 180 185 190  
 Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His  
 195 200 205  
 Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val  
 210 215 220  
 Thr Lys Ser Phe Asn Arg Gly Glu Cys  
 225 230

<210> 68

&lt;211&gt; 463

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 68

Met Glu Phe Gly Leu Ser Trp Val Phe Leu Val Ala Leu Leu Arg Gly  
 1 5 10 15

Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Glu  
 20 25 30

Pro Gly Arg Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe  
 35 40 45

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
 50 55 60

Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys His Tyr Ala  
 65 70 75 80

Asp Ser Ala Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn  
 85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
 100 105 110

Tyr Tyr Cys Ala Arg Ala Gly Leu Leu Gly Tyr Phe Asp Tyr Trp Gly  
 115 120 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser  
 130 135 140

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala  
 145 150 155 160

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val  
 165 170 175

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala  
 180 185 190

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val  
 195 200 205

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His  
 210 215 220

Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys  
 225 230 235 240

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val  
 245 250 255

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
 260 265 270

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu  
 275 280 285

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
 290 295 300  
 Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser  
 305 310 315 320  
 Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
 325 330 335  
 Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile  
 340 345 350  
 Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
 355 360 365  
 Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
 370 375 380  
 Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
 385 390 395 400  
 Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser  
 405 410 415  
 Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg  
 420 425 430  
 Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
 435 440 445  
 His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
 450 455 460

<210> 69  
 <211> 234  
 <212> PRT  
 <213> Homo sapiens

<400> 69  
 Met Glu Thr Pro Ala Gln Leu Leu Phe Leu Leu Leu Leu Trp Leu Pro  
 1 5 10 15  
 Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser  
 20 25 30  
 Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser  
 35 40 45  
 Val Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro  
 50 55 60  
 Arg Pro Leu Ile Tyr Gly Val Ser Ser Arg Ala Thr Gly Ile Pro Asp  
 65 70 75 80  
 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser  
 85 90 95

Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly  
 100 105 110  
 Ile Ser Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg  
 115 120 125  
 Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln  
 130 135 140  
 Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr  
 145 150 155 160  
 Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser  
 165 170 175  
 Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr  
 180 185 190  
 Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys  
 195 200 205  
 His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro  
 210 215 220  
 Val Thr Lys Ser Phe Asn Arg Gly Glu Cys  
 225 230

<210> 70  
 <211> 451  
 <212> PRT  
 <213> Homo sapiens

<400> 70  
 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg  
 1 5 10 15  
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr  
 20 25 30  
 Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val  
 35 40 45  
 Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val  
 50 55 60  
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr  
 65 70 75 80  
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95  
 Ala Arg Asp Pro Arg Gly Ala Thr Leu Tyr Tyr Tyr Tyr Tyr Gly Met  
 100 105 110  
 Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr  
 115 120 125

Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	
130						135					140					
Glu	Ser	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	
145					150					155					160	
Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	
				165					170					175		
Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	
			180					185					190			
Val	Val	Thr	Val	Pro	Ser	Ser	Asn	Phe	Gly	Thr	Gln	Thr	Tyr	Thr	Cys	
		195					200					205				
Asn	Val	Asp	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Thr	Val	Glu	
210						215					220					
Arg	Lys	Cys	Cys	Val	Glu	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Pro	Val	Ala	
225					230					235					240	
Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	
				245					250					255		
Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	
			260					265					270			
Glu	Asp	Pro	Glu	Val	Gln	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	
	275						280					285				
His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Phe	
	290					295					300					
Arg	Val	Val	Ser	Val	Leu	Thr	Val	Val	His	Gln	Asp	Trp	Leu	Asn	Gly	
305					310					315					320	
Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ala	Pro	Ile	
				325					330					335		
Glu	Lys	Thr	Ile	Ser	Lys	Thr	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	
			340					345					350			
Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	
		355					360					365				
Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	
	370					375					380					
Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	
385					390					395					400	
Met	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	
				405					410					415		
Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	
			420				425						430			

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser  
 435 440 445

Pro Gly Lys  
 450

<210> 71  
 <211> 214  
 <212> PRT  
 <213> Homo sapiens

<400> 71  
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly  
 1 5 10 15  
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Asn Ser Tyr  
 20 25 30  
 Leu Asp Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
 35 40 45  
 Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60  
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80  
 Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Ser Thr Pro Phe  
 85 90 95  
 Thr Phe Gly Pro Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala  
 100 105 110  
 Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly  
 115 120 125  
 Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala  
 130 135 140  
 Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln  
 145 150 155 160  
 Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser  
 165 170 175  
 Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr  
 180 185 190  
 Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser  
 195 200 205  
 Phe Asn Arg Gly Glu Cys  
 210

<210> 72  
 <211> 89

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 72

Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser  
 1 5 10 15

Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro  
 20 25 30

Gly Lys Gly Leu Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser Asn  
 35 40 45

Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp  
 50 55 60

Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu  
 65 70 75 80

Asp Thr Ala Val Tyr Tyr Cys Ala Arg  
 85

&lt;210&gt; 73

&lt;211&gt; 169

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 73

Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser  
 1 5 10 15

Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro  
 20 25 30

Gly Lys Gly Leu Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser Asn  
 35 40 45

Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp  
 50 55 60

Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu  
 65 70 75 80

Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Ala Arg Ile Ile Thr Pro  
 85 90 95

Cys Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala  
 100 105 110

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser  
 115 120 125

Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe  
 130 135 140

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly  
 145 150 155 160

Val His Thr Phe Pro Ala Val Leu Gln  
165

<210> 74  
<211> 167  
<212> PRT  
<213> Homo sapiens

<400> 74  
Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Val Ala Ser  
1 5 10 15  
Gly Phe Thr Phe Ser Ser His Gly Met His Trp Val Arg Gln Ala Pro  
20 25 30  
Gly Lys Gly Leu Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Arg Asn  
35 40 45  
Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp  
50 55 60  
Asn Ser Lys Asn Thr Leu Phe Leu Gln Met Asn Ser Leu Arg Ala Glu  
65 70 75 80  
Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Gly His Phe Gly Pro Phe  
85 90 95  
Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr  
100 105 110  
Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser  
115 120 125  
Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu  
130 135 140  
Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His  
145 150 155 160  
Thr Phe Pro Ala Val Leu Gln  
165

<210> 75  
<211> 166  
<212> PRT  
<213> Homo sapiens

<400> 75  
Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Thr Ala Ser  
1 5 10 15  
Gly Phe Thr Phe Ser Asn Tyr Gly Met His Trp Val Arg Gln Ala Pro  
20 25 30  
Gly Lys Gly Leu Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser Asn



35					40					45					
Lys	His	Tyr	Gly	Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Ser	Asp
50					55					60					
Asn	Ser	Lys	Asn	Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu
65					70					75					80
Asp	Thr	Ala	Val	Tyr	Tyr	Cys	Ala	Arg	Gly	Glu	Arg	Leu	Gly	Ser	Tyr
				85					90					95	
Phe	Asp	Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser
			100					105					110		
Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr
		115					120					125			
Ser	Glu	Ser	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro
	130					135					140				
Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val
145					150					155					160
His	Thr	Phe	Pro	Ala	Val										
				165											

&lt;210&gt; 76

&lt;211&gt; 167

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 76

Gly	Val	Val	Gln	Pro	Gly	Arg	Ser	Leu	Arg	Leu	Ser	Cys	Val	Ala	Ser
1				5					10					15	
Gly	Phe	Ile	Phe	Ser	Ser	His	Gly	Ile	His	Trp	Val	Arg	Gln	Ala	Pro
			20					25					30		
Gly	Lys	Gly	Leu	Glu	Trp	Val	Ala	Val	Ile	Trp	Tyr	Asp	Gly	Arg	Asn
		35					40					45			
Lys	Asp	Tyr	Ala	Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp
	50					55					60				
Asn	Ser	Lys	Asn	Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu
65					70					75					80
Asp	Thr	Ala	Val	Tyr	Tyr	Cys	Ala	Arg	Val	Ala	Pro	Leu	Gly	Pro	Leu
				85					90					95	
Asp	Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr
			100					105					110		
Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser
		115					120					125			
Glu	Ser	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu

130                      135                      140  
 Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His  
 145                      150                      155                      160

Thr Phe Pro Ala Val Leu Gln  
 165

<210> 77  
 <211> 153  
 <212> PRT  
 <213> Homo sapiens

<400> 77  
 Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe  
 1                      5                      10                      15  
 Ser Ser His Gly Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
 20                      25                      30  
 Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Arg Asn Lys Asp Tyr Ala  
 35                      40                      45  
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn  
 50                      55                      60  
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
 65                      70                      75                      80  
 Tyr Tyr Cys Ala Arg Val Ala Pro Leu Gly Pro Leu Asp Tyr Trp Gly  
 85                      90                      95  
 Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser  
 100                      105                      110  
 Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala  
 115                      120                      125  
 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val  
 130                      135                      140  
 Ser Trp Asn Ser Gly Ala Leu Thr Ser  
 145                      150

<210> 78  
 <211> 163  
 <212> PRT  
 <213> Homo sapiens

<400> 78  
 Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe  
 1                      5                      10                      15  
 Ser Ser His Gly Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
 20                      25                      30

Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Arg Asn Lys Asp Tyr Ala  
           35                          40                          45  
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Lys  
           50                          55                          60  
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
   65                          70                          75                          80  
 Tyr Tyr Cys Ala Arg Val Ala Pro Leu Gly Pro Leu Asp Tyr Trp Gly  
                           85                          90                          95  
 Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser  
                           100                          105                          110  
 Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala  
           115                          120                          125  
 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val  
   130                          135                          140  
 Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala  
  145                          150                          155                          160  
 Val Leu Gln

<210> 79  
 <211> 138  
 <212> PRT  
 <213> Homo sapiens

<400> 79  
 Gly Gly Val Val Glu Pro Gly Arg Ser Leu Arg Leu Ser Cys Thr Ala  
   1                          5                          10                          15  
 Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala  
           20                          25                          30  
 Pro Gly Lys Gly Leu Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser  
           35                          40                          45  
 Asn Lys His Tyr Ala Asp Ser Ala Lys Gly Arg Phe Thr Ile Ser Arg  
   50                          55                          60  
 Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala  
   65                          70                          75                          80  
 Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ala Gly Leu Leu Gly Tyr  
           85                          90                          95  
 Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser  
           100                          105                          110  
 Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr  
           115                          120                          125  
 Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu

130

135

<210> 80  
 <211> 167  
 <212> PRT  
 <213> Homo sapiens

<400> 80

Gly	Val	Val	Gln	Pro	Gly	Arg	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser
1				5					10					15	
Gly	Phe	Thr	Phe	Ser	Ser	Tyr	Gly	Met	His	Trp	Val	Arg	Gln	Ala	Pro
			20					25					30		
Gly	Lys	Gly	Leu	Glu	Trp	Val	Ala	Val	Ile	Trp	Tyr	Asp	Gly	Ser	Asn
		35					40					45			
Lys	Tyr	Tyr	Ala	Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp
	50					55					60				
Asn	Ser	Lys	Asn	Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu
65					70					75					80
Asp	Thr	Ala	Val	Tyr	Tyr	Cys	Ala	Arg	Asp	Pro	Arg	Gly	Ala	Thr	Leu
				85					90					95	
Tyr	Tyr	Tyr	Tyr	Tyr	Gly	Met	Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val
			100					105					110		
Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala
		115					120					125			
Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	Thr	Ala	Ala	Leu	Gly	Cys	Leu
	130					135					140				
Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly
145					150					155					160
Ala	Leu	Thr	Ser	Gly	Val	His									
				165											

<210> 81  
 <211> 150  
 <212> PRT  
 <213> Homo sapiens

<400> 81

Gly	Val	Val	Gln	Pro	Gly	Arg	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser
1				5					10					15	
Gly	Phe	Thr	Phe	Ser	Ser	Tyr	Gly	Met	His	Trp	Val	Arg	Gln	Ala	Pro
			20					25					30		
Gly	Lys	Gly	Leu	Glu	Trp	Val	Ala	Val	Ile	Trp	Tyr	Asp	Gly	Ser	His
		35					40					45			

Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp  
 50 55 60

Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu  
 65 70 75 80

Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Ala Val Val Val Pro Ala  
 85 90 95

Ala Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala  
 100 105 110

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser  
 115 120 125

Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe  
 130 135 140

Pro Glu Pro Val Thr Val  
 145 150

<210> 82  
 <211> 146  
 <212> PRT  
 <213> Homo sapiens

<400> 82  
 Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly  
 1 5 10 15

Phe Thr Phe Ser Ser Cys Gly Met His Trp Val Arg Gln Ala Pro Gly  
 20 25 30

Lys Gly Leu Glu Trp Val Ala Val Ile Trp Ser Asp Gly Ser His Lys  
 35 40 45

Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn  
 50 55 60

Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp  
 65 70 75 80

Thr Ala Val Tyr Tyr Cys Ala Arg Gly Thr Met Ile Val Val Gly Thr  
 85 90 95

Leu Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser  
 100 105 110

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr  
 115 120 125

Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro  
 130 135 140

Glu Pro  
 145

<210> 83  
 <211> 171  
 <212> PRT  
 <213> Homo sapiens

<400> 83  
 Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser  
   1                  5                  10                  15  
 Gly Phe Thr Phe Ser Ser Tyr Gly Val His Trp Val Arg Gln Ala Pro  
           20                  25                  30  
 Gly Lys Gly Leu Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser Asn  
           35                  40                  45  
 Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp  
   50                  55                  60  
 Asn Ser Lys Ser Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu  
   65                  70                  75                  80  
 Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Tyr Tyr Asp Phe Trp  
           85                  90                  95  
 Ser Gly Arg Gly Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr  
           100                  105                  110  
 Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro  
   115                  120                  125  
 Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val  
   130                  135                  140  
 Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala  
   145                  150                  155                  160  
 Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
           165                  170

<210> 84  
 <211> 163  
 <212> PRT  
 <213> Homo sapiens

<400> 84  
 Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe  
   1                  5                  10                  15  
 Thr Phe Ser Asn Tyr Ala Met His Trp Val Arg Gln Ala Pro Gly Lys  
           20                  25                  30  
 Gly Leu Glu Trp Val Val Val Ile Trp His Asp Gly Asn Asn Lys Tyr  
           35                  40                  45  
 Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser  
   50                  55                  60

Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr  
65 70 75 80

Ala Val Tyr Tyr Cys Ala Arg Asp Gln Gly Thr Gly Trp Tyr Gly Gly  
85 90 95

Phe Asp Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser  
100 105 110

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr  
115 120 125

Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro  
130 135 140

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val  
145 150 155 160

His Thr Phe

<210> 85

<211> 76

<212> PRT

<213> Homo sapiens

<400> 85

Val Ser Gly Gly Ser Ile Ser Ser Gly Gly Tyr Tyr Trp Ser Trp Ile  
1 5 10 15

Arg Gln His Pro Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile Tyr Tyr  
20 25 30

Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Ser Arg Val Thr Ile  
35 40 45

Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val  
50 55 60

Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg  
65 70 75

<210> 86

<211> 172

<212> PRT

<213> Homo sapiens

<400> 86

Ser Gly Pro Gly Leu Val Lys Pro Ser Gln Ile Leu Ser Leu Thr Cys  
1 5 10 15

Thr Val Ser Gly Gly Ser Ile Ser Ser Gly Gly His Tyr Trp Ser Trp  
20 25 30

Ile Arg Gln His Pro Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile Tyr  
35 40 45

Tyr Ile Gly Asn Thr Tyr Tyr Asn Pro Ser Leu Lys Ser Arg Val Thr  
 50 55 60  
 Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser  
 65 70 75 80  
 Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Gly  
 85 90 95  
 Asp Tyr Tyr Gly Ile Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val  
 100 105 110  
 Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys  
 115 120 125  
 Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys  
 130 135 140  
 Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu  
 145 150 155 160  
 Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln  
 165 170

<210> 87  
 <211> 96  
 <212> PRT  
 <213> Homo sapiens

<400> 87  
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly  
 1 5 10 15  
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser  
 20 25 30  
 Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu  
 35 40 45  
 Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser  
 50 55 60  
 Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu  
 65 70 75 80  
 Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro  
 85 90 95

<210> 88  
 <211> 141  
 <212> PRT  
 <213> Homo sapiens

<400> 88  
 Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu



1	5	10	15
Ser Cys Arg Ala Ser Gln Ser Ile Ser Ser Ser Phe Leu Ala Trp Tyr	20	25	30
Gln Gln Arg Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser	35	40	45
Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly	50	55	60
Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala	65	70	75
Val Tyr Tyr Cys Gln Gln Tyr Gly Thr Ser Pro Trp Thr Phe Gly Gln	85	90	95
Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe	100	105	110
Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val	115	120	125
Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys	130	135	140

<210> 89  
 <211> 141  
 <212> PRT  
 <213> Homo sapiens

<400> 89
Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu
1 5 10 15
Ser Cys Arg Thr Ser Val Ser Ser Ser Tyr Leu Ala Trp Tyr Gln Gln
20 25 30
Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg
35 40 45
Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
50 55 60
Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr
65 70 75 80
Tyr Cys Gln Gln Tyr Gly Ile Ser Pro Phe Thr Phe Gly Gly Gly Thr
85 90 95
Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
100 105 110
Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
115 120 125
Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln

130

135

140

<210> 90  
 <211> 139  
 <212> PRT  
 <213> Homo sapiens

<400> 90  
 Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg  
   1                  5                  10                  15  
 Ala Ser Gln Ser Val Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro  
                   20                  25                  30  
 Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr  
           35                  40                  45  
 Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr  
   50                  55                  60  
 Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys  
   65                  70                  75                  80  
 Gln Gln Tyr Gly Arg Ser Pro Phe Thr Phe Gly Pro Gly Thr Lys Val  
                   85                  90                  95  
 Asp Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro  
           100                  105                  110  
 Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu  
   115                  120                  125  
 Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln  
   130                  135

<210> 91  
 <211> 142  
 <212> PRT  
 <213> Homo sapiens

<400> 91  
 Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu  
   1                  5                  10                  15  
 Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr Leu Ala Trp Tyr Gln  
           20                  25                  30  
 Gln Lys Pro Gly Gln Ala Pro Arg Pro Leu Ile Tyr Gly Val Ser Ser  
   35                  40                  45  
 Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr  
   50                  55                  60  
 Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val  
   65                  70                  75                  80

Tyr	Tyr	Cys	Gln	Gln	Tyr	Gly	Ile	Ser	Pro	Phe	Thr	Phe	Gly	Pro	Gly
				85					90					95	
Thr	Lys	Val	Asp	Ile	Lys	Arg	Thr	Val	Ala	Ala	Pro	Ser	Val	Phe	Ile
			100					105					110		
Phe	Pro	Pro	Ser	Asp	Glu	Gln	Leu	Lys	Ser	Gly	Thr	Ala	Ser	Val	Val
		115					120					125			
Cys	Leu	Leu	Asn	Asn	Phe	Tyr	Pro	Arg	Glu	Ala	Lys	Val	Gln		
	130					135					140				

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<210> 92
<211> 142
<212> PRT
<213> Homo sapiens
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<400> 92																
Ser	Pro	Gly	Thr	Leu	Ser	Leu	Ser	Pro	Gly	Glu	Arg	Ala	Thr	Leu	Ser	
1				5					10					15		
Cys	Arg	Ala	Ser	Gln	Ser	Ile	Ser	Ser	Asn	Phe	Leu	Ala	Trp	Tyr	Gln	
			20					25					30			
Gln	Lys	Pro	Gly	Gln	Ala	Pro	Arg	Leu	Leu	Ile	Tyr	Arg	Pro	Ser	Ser	
		35					40					45				
Arg	Ala	Thr	Gly	Ile	Pro	Asp	Ser	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	
	50					55					60					
Asp	Phe	Thr	Leu	Thr	Ile	Ser	Arg	Leu	Glu	Pro	Glu	Asp	Phe	Ala	Leu	
65					70					75					80	
Tyr	Tyr	Cys	Gln	Gln	Tyr	Gly	Thr	Ser	Pro	Phe	Thr	Phe	Gly	Pro	Gly	
				85					90					95		
Thr	Lys	Val	Asp	Ile	Lys	Arg	Thr	Val	Ala	Ala	Pro	Ser	Val	Phe	Ile	
			100					105					110			
Phe	Pro	Pro	Ser	Asp	Glu	Gln	Leu	Lys	Ser	Gly	Thr	Ala	Ser	Val	Val	
		115					120					125				
Cys	Leu	Leu	Asn	Asn	Phe	Tyr	Pro	Arg	Glu	Ala	Lys	Val	Gln			
	130					135					140					

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<210> 93
<211> 146
<212> PRT
<213> Homo sapiens
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<400> 93  
Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu  
1 5 10 15  
Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr Leu Ala Trp Tyr Gln  
20 25 30

Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser  
           35                          40                          45  
 Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr  
           50                          55                          60  
 Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val  
           65                          70                          75                          80  
 Tyr Tyr Cys Gln Gln Tyr Gly Arg Ser Pro Phe Thr Phe Gly Pro Gly  
                           85                          90                          95  
 Thr Lys Val Asp Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile  
                           100                          105                          110  
 Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val  
                           115                          120                          125  
 Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys  
           130                          135                          140  
 Gly Gly  
 145

<210> 94  
 <211> 95  
 <212> PRT  
 <213> Homo sapiens

<400> 94  
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly  
           1                          5                          10                          15  
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser Tyr  
                           20                          25                          30  
 Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
                           35                          40                          45  
 Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly  
           50                          55                          60  
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
           65                          70                          75                          80  
 Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro  
                           85                          90                          95

<210> 95  
 <211> 152  
 <212> PRT  
 <213> Homo sapiens

<400> 95  
 Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile

1	5	10	15
Thr Cys Arg Ala Ser Gln Ser Ile Asn Thr Tyr Leu Ile Trp Tyr Gln	20	25	30
Gln Lys Pro Gly Lys Ala Pro Asn Phe Leu Ile Ser Ala Thr Ser Ile	35	40	45
Leu Gln Ser Gly Val Pro Ser Arg Phe Arg Gly Ser Gly Ser Gly Thr	50	55	60
Asn Phe Thr Leu Thr Ile Asn Ser Leu His Pro Glu Asp Phe Ala Thr	65	70	75
Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Phe Thr Phe Gly Pro Gly	85	90	95
Thr Lys Val Asp Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile	100	105	110
Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val	115	120	125
Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys	130	135	140
Val Asp Asn Ala Leu Gln Ser Gly	145	150	

&lt;210&gt; 96

&lt;211&gt; 139

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 96

Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys	1	5	10	15
Arg Ala Ser Gln Ser Ile Asn Ser Tyr Leu Asp Trp Tyr Gln Gln Lys	20	25	30	
Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ala Ala Ser Ser Leu Gln	35	40	45	
Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe	50	55	60	
Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr	65	70	75	80
Cys Gln Gln Tyr Tyr Ser Thr Pro Phe Thr Phe Gly Pro Gly Thr Lys	85	90	95	
Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro	100	105	110	
Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu				

115                      120                      125  
 Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val  
     130                      135

<210> 97  
 <211> 134  
 <212> PRT  
 <213> Homo sapiens

<400> 97  
 Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr  
     1                      5                      10                      15  
 Ile Thr Cys Arg Ala Ser Gln Asn Ile Ser Arg Tyr Leu Asn Trp Tyr  
                     20                      25                      30  
 Gln Gln Lys Pro Gly Lys Ala Pro Lys Phe Leu Ile Tyr Val Ala Ser  
                     35                      40                      45  
 Ile Leu Gln Ser Gly Val Pro Ser Gly Phe Ser Ala Ser Gly Ser Gly  
     50                      55                      60  
 Pro Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
     65                      70                      75                      80  
 Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Phe Thr Phe Gly Pro  
                     85                      90                      95  
 Gly Thr Lys Val Asp Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe  
                     100                      105                      110  
 Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val  
     115                      120                      125  
 Val Cys Leu Leu Asn Asn  
     130

<210> 98  
 <211> 150  
 <212> PRT  
 <213> Homo sapiens

<400> 98  
 Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr  
     1                      5                      10                      15  
 Ile Thr Cys Arg Ala Ser Gln Ser Ile Cys Asn Tyr Leu Asn Trp Tyr  
                     20                      25                      30  
 Gln Gln Lys Pro Gly Lys Ala Pro Arg Val Leu Ile Tyr Ala Ala Ser  
                     35                      40                      45  
 Ser Leu Gln Gly Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly  
     50                      55                      60

Ile Asp Cys Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
 65 70 75 80  
 Thr Tyr Tyr Cys Gln Gln Ser Tyr Ile Thr Pro Phe Thr Phe Gly Pro  
 85 90 95  
 Gly Thr Arg Val Asp Ile Glu Arg Thr Val Ala Ala Pro Ser Val Phe  
 100 105 110  
 Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val  
 115 120 125  
 Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp  
 130 135 140  
 Lys Val Asp Asn Ala Tyr  
 145 150

<210> 99  
 <211> 96  
 <212> PRT  
 <213> Homo sapiens

<400> 99  
 Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys  
 1 5 10 15  
 Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Gly Ser Ser  
 20 25 30  
 Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile  
 35 40 45  
 Lys Tyr Ala Ser Gln Ser Phe Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60  
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala  
 65 70 75 80  
 Glu Asp Ala Ala Thr Tyr Tyr Cys His Gln Ser Ser Ser Leu Pro Gln  
 85 90 95

<210> 100  
 <211> 364  
 <212> PRT  
 <213> Homo sapiens

<400> 100  
 Met Gly Val Leu Leu Thr Gln Arg Thr Leu Leu Ser Leu Val Leu Ala  
 1 5 10 15  
 Leu Leu Phe Pro Ser Met Ala Ser Met Ala Met His Val Ala Gln Pro  
 20 25 30  
 Ala Val Val Leu Ala Ser Ser Arg Gly Ile Ala Ser Phe Val Cys Glu  
 35 40 45

Tyr Ala Ser Pro Gly Lys Ala Thr Glu Val Arg Val Thr Val Leu Arg  
 50 55 60  
 Gln Ala Asp Ser Gln Val Thr Glu Val Cys Ala Ala Thr Tyr Met Met  
 65 70 75 80  
 Gly Asn Glu Leu Thr Phe Leu Asp Asp Ser Ile Cys Thr Gly Thr Ser  
 85 90 95  
 Ser Gly Asn Gln Val Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp  
 100 105 110  
 Thr Gly Leu Tyr Ile Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr  
 115 120 125  
 Tyr Leu Gly Ile Gly Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu  
 130 135 140  
 Pro Cys Pro Asp Ser Asp Leu Glu Gly Ala Pro Ser Val Phe Leu Phe  
 145 150 155 160  
 Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val  
 165 170 175  
 Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe  
 180 185 190  
 Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro  
 195 200 205  
 Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr  
 210 215 220  
 Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val  
 225 230 235 240  
 Ser Asn Lys Ala Leu Pro Thr Pro Ile Glu Lys Thr Ile Ser Lys Ala  
 245 250 255  
 Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg  
 260 265 270  
 Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly  
 275 280 285  
 Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro  
 290 295 300  
 Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser  
 305 310 315 320  
 Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln  
 325 330 335  
 Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His  
 340 345 350



Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
 355 360

<210> 101  
 <211> 12  
 <212> PRT  
 <213> Homo sapiens

<400> 101  
 Met His Val Ala Gln Pro Ala Val Val Leu Ala Ser  
 1 5 10

<210> 102  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 102  
 Met His Val Ala Gln Pro Ala Val Val Leu Ala Ser Ser Arg Gly Ile  
 1 5 10 15

Ala Ser Phe Val Cys Glu Tyr Ala Ser Pro Gly Lys Ala Thr Glu Val  
 20 25 30

Arg Val Thr Val Leu Arg Gln Ala Asp Ser Gln Val Thr Glu Val Cys  
 35 40 45

Ala Ala Thr Tyr Met Met Gly Asn Glu Leu Thr Phe Leu Asp Asp Ser  
 50 55 60

Ile Cys Thr Gly Thr Ser Ser Gly Asn Gln Val Asn Leu Thr Ile Gln  
 65 70 75 80

Gly Leu Arg Ala Met Asp Thr Gly Leu Tyr Ile Cys Lys Val Glu Leu  
 85 90 95

Met Tyr Pro Pro Pro Tyr Tyr Leu Gly Ile Gly Asn Gly Thr Gln Ile  
 100 105 110

Tyr Val Ile Asp Pro Glu Pro Cys  
 115 120

<210> 103  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<400> 103  
 Met His Val Ala Gln Pro Ala Val Val Leu Ala  
 1 5 10

<210> 104  
 <211> 23  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<220>

<221> modified\_base

<222> (21)

<223> i

<400> 104

caggtgcagc tggagcagtc ngg

23

<210> 105

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 105

gctgagggag tagagtcctg agga

24

<210> 106

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 106

tatctaagct tctagactcg accgccacca tggagtttgg gctgagctg

49

<210> 107

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 107

ttctctgatc agaattccta tcatttaccc ggagacaggg agagct

46

<210> 108

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Optimal Kozak sequence

<400> 108  
accgccacc

9

<210> 109  
<211> 45  
<212> DNA  
<213> Homo sapiens

<400> 109  
tcttcaagct tgcccgggcc cgccaccatg gaaaccccag cgcag

45

<210> 110  
<211> 43  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 110  
ttctttgatc agaattctca ctaacactct cccctgttga agc

43

<210> 111  
<211> 48  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 111  
tcttcaagct tgcccgggcc cgccaccatg gacatgaggg tccccgct

48

<210> 112  
<211> 155  
<212> PRT  
<213> Homo sapiens

<400> 112  
Ser Pro Asp Phe Gln Ser Val Thr Pro Lys Glu Lys Val Thr Ile Thr  
1 5 10 15  
Cys Arg Ala Ser Gln Ser Ile Gly Ser Ser Leu His Trp Tyr Gln Gln  
20 25 30  
Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile Lys Tyr Ala Ser Gln Ser  
35 40 45  
Phe Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp  
50 55 60  
Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala Thr Tyr  
65 70 75 80

Tyr Cys His Gln Ser Ser Ser Leu Pro Leu Thr Phe Gly Gly Gly Thr  
                     85                    90                    95  
 Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe  
                     100                    105                    110  
 Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys  
                     115                    120                    125  
 Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val  
                     130                    135                    140  
 Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu  
 145                    150                    155

<210> 113  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

<400> 113  
 Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly  
   1                    5                    10                    15  
 Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val Tyr Ser  
                     20                    25                    30  
 Asp Gly Asn Thr Tyr Leu Asn Trp Phe Gln Gln Arg Pro Gly Gln Ser  
                     35                    40                    45  
 Pro Arg Arg Leu Ile Tyr Lys Val Ser Asn Arg Asp Ser Gly Val Pro  
                     50                    55                    60  
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
   65                    70                    75                    80  
 Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Gly  
                     85                    90                    95  
 Thr His Trp Pro  
                     100

<210> 114  
 <211> 139  
 <212> PRT  
 <213> Homo sapiens

<400> 114  
 Pro Leu Ser Leu Pro Val Thr Leu Gly Gln Pro Ala Ser Ile Ser Cys  
   1                    5                    10                    15  
 Arg Ser Ser Gln Ser Leu Val Tyr Ser Asp Gly Asn Thr Tyr Leu Asn  
                     20                    25                    30  
 Trp Phe Gln Gln Arg Pro Gly Gln Ser Pro Arg Arg Leu Ile Tyr Lys  
                     35                    40                    45

Val Ser Asn Trp Asp Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly  
50 55 60

Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp  
65 70 75 80

Val Gly Val Tyr Tyr Cys Met Gln Gly Ser His Trp Pro Pro Thr Phe  
85 90 95

Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser  
100 105 110

Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala  
115 120 125

Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro  
130 135

<210> 115  
<211> 100  
<212> PRT  
<213> Homo sapiens

<400> 115  
Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly  
1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser  
20 25 30

Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro  
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala  
85 90 95

Leu Gln Thr Pro  
100

<210> 116  
<211> 133  
<212> PRT  
<213> Homo sapiens

<400> 116  
Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu  
1 5 10 15

His Ser Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly

	20		25		30
Gln	Ser	Pro	Gln	Leu	Leu
	35			Ile	Tyr
				Leu	Gly
				Ser	Asn
				Arg	Ala
					Ser
					Gly
Val	Pro	Asp	Arg	Phe	Ser
	50			Gly	Ser
				Gly	Ser
				Thr	Asp
				Phe	Thr
				Leu	
Lys	Leu	Ser	Arg	Val	Glu
	65			Ala	Glu
				Asp	Val
				Gly	Val
				Tyr	Tyr
				Cys	Met
					80
Gln	Ala	Leu	Gln	Thr	Pro
				Leu	Thr
				Phe	Gly
				Gly	Gly
				Thr	Lys
				Val	Glu
					95
Ile	Lys	Arg	Thr	Val	Ala
				Ala	Pro
				Ser	Val
				Phe	Ile
				Phe	Pro
				Pro	Ser
					110
Asp	Glu	Gln	Leu	Lys	Ser
	115			Gly	Thr
				Ala	Ser
				Val	Val
				Cys	Leu
				Leu	Asn
					125
Asn	Phe	Tyr	Pro	Arg	
	130				

<210> 117  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 117  
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly  
 1 5 10 15

Asp Arg Val Thr  
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<210> 118  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 118  
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly  
 1 5 10 15

Glu Arg Ala Thr  
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<210> 119  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 119  
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly  
 1 5 10 15

Glu Arg Ala Thr  
20

<210> 120  
<211> 20  
<212> PRT  
<213> Homo sapiens

<400> 120  
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly  
1 5 10 15

Asp Arg Val Thr  
20

<210> 121  
<211> 20  
<212> PRT  
<213> Homo sapiens

<400> 121  
Thr Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser  
1 5 10 15

Pro Gly Glu Arg  
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<210> 122  
<211> 20  
<212> PRT  
<213> Homo sapiens

<400> 122  
Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly  
1 5 10 15

Glu Arg Ala Thr  
20

<210> 123  
<211> 20  
<212> PRT  
<213> Homo sapiens

<400> 123  
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly  
1 5 10 15

Glu Arg Ala Thr  
20

<210> 124

<211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 124  
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly  
     1                    5                    10                    15

Glu Arg Ala Thr  
                     20

<210> 125  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 125  
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly  
     1                    5                    10                    15

Glu Arg Ala Thr  
                     20

<210> 126  
 <211> 21  
 <212> PRT  
 <213> Homo sapiens

<400> 126  
 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg  
     1                    5                    10                    15

Ser Leu Arg Leu Ser  
                     20

<210> 127  
 <211> 5  
 <212> PRT  
 <213> Homo sapiens

<400> 127  
 Pro Glu Val Gln Phe  
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<210> 128  
 <211> 21  
 <212> PRT  
 <213> Homo sapiens

<400> 128  
 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg  
     1                    5                    10                    15

Ser Leu Arg Leu Ser



20

<210> 129  
 <211> 10  
 <212> PRT  
 <213> Homo sapiens

<400> 129  
 Pro Glu Val Gln Phe Asn Trp Tyr Val Asp  
           1                  5                  10

<210> 130  
 <211> 18  
 <212> PRT  
 <213> Homo sapiens

<400> 130  
 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg  
           1                  5                  10                  15

Ser Leu

<210> 131  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<400> 131  
 Pro Glu Val Gln Phe Asn Trp Tyr  
           1                  5

<210> 132  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 132  
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly  
           1                  5                  10                  15

Ser Leu Arg Leu  
                   20

<210> 133  
 <211> 21  
 <212> PRT  
 <213> Homo sapiens

<400> 133  
 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg  
           1                  5                  10                  15

Ser Leu Arg Leu Ser

20

<210> 134  
 <211> 10  
 <212> PRT  
 <213> Homo sapiens

<400> 134  
 Pro Glu Val Gln Phe Asn Trp Tyr Val Asp  
           1                  5                  10

<210> 135  
 <211> 21  
 <212> PRT  
 <213> Homo sapiens

<400> 135  
 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg  
           1                  5                  10                  15

Ser Leu Arg Leu Ser  
                   20

<210> 136  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

<400> 136  
 Pro Glu Val Gln Phe Asn Trp Tyr Val  
           1                  5

<210> 137  
 <211> 21  
 <212> PRT  
 <213> Homo sapiens

<400> 137  
 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg  
           1                  5                  10                  15

Ser Leu Arg Leu Ser  
                   20

<210> 138  
 <211> 6  
 <212> PRT  
 <213> Homo sapiens

<400> 138  
 Pro Glu Val Gln Phe Asn  
           1                  5

<210> 139  
 <211> 21  
 <212> PRT  
 <213> Homo sapiens

<400> 139  
 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Glu Pro Gly Arg  
           1                  5                  10                  15

Ser Leu Arg Leu Ser  
                   20

<210> 140  
 <211> 10  
 <212> PRT  
 <213> Homo sapiens

<400> 140  
 Pro Glu Val Gln Phe Asn Trp Tyr Val Asp  
           1                  5                  10

<210> 141  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<400> 141  
 Asp Ile Gln Met Thr Gln Ser Pro  
           1                  5

<210> 142  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<400> 142  
 Glu Ile Val Leu Thr Gln Ser Pro  
           1                  5

<210> 143  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<400> 143  
 Glu Ile Val Leu Thr Gln Ser Pro  
           1                  5

<210> 144  
 <211> 10  
 <212> PRT  
 <213> Homo sapiens

<400> 144  
 Thr Gly Glu Phe Val Leu Thr Gln Ser Pro  
   1                  5                  10

<210> 145  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<400> 145  
 Glu Phe Val Leu Thr Gln Ser Pro  
   1                  5

<210> 146  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<400> 146  
 Glu Ile Val Leu Thr Gln Ser Pro  
   1                  5

<210> 147  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<400> 147  
 Glu Ile Val Leu Thr Gln Ser Pro  
   1                  5